TECHNICAL NOTES

CREX User's Guide and Reference Manual

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Contents

1 Introduction

FM 95-XII CREX is standard WMO Character form for the Representation and EXchange of data. This document describes the software to decode/encode CREX data and conversion between BUFR and CREX formats. A full definition and regulations of the CREX form is given in the WMO Manual on Codes VOLUME I.2 WMO-No.306 or on web site: http://www.wmo.ch/indexflash.html Once there go to WWW (World Weather Watch) and click on "WWW Guides, Code Tables and Documents"

2 CREX USER's Guide

2.1 CREX format

CREX is character form for the representation and exchange of meteorological and other data. It is specially useful in the cases where binary representation of data is not possible due to the lack of computer data handling capabilities. The CREX is comprised of five sections.

Table 1: CREX Code Form

Section	Meaning	Content
Section 0	Indicator section	"CREX" in International Alphabet No 5 character set(IA 5)
Section 1	Data description section	CREX Master table number, edition number, table version number, data category, then a collection of descriptors which define the form and content of data subsets making the data section, and an optional check digit indicator "E"
Section 2	Data section	Data values corresponding one to one to the fully expanded Data descriptors from Section 1
Section 3	Optional section	"SUPP" followed by additional items defined by local ADP centre
Section 4	End section	"7777" four IA 5 figures designating the end of CREX message

2.2 Section 0 - Indicator section

Table 2: Indicator section

Group No	Content	Meaning
1	"CREX"	CREX: Beginning of the CREX message. The characters are in International Alphabet No 5 character seti(IA 5)

2.3 Section 1 - Data description section

Table 3: Data description section

Group No	Content	Meaning
1	Ttteevvbbww	T: Indicator for CREX Tables tt: CREX master table used (00 for WMO standard FM 95 CREX tables) ee: CREX edition number (currently 02) vv: CREX table version number (currently 03) bb: BUFR master table version number used (currently 12) ww: Version number of local tables used
2	Yyyyymmdd	yyyy: Year mm: Month dd: Day
3	Hhhnn	hh: Hour nn: Minute
4	Annnmmm	A: Indicator for CREX table version number (currently 03) nnn: Data category from CREX Table A mmm: International data sub-category from Common table C-13
5	Pooooppp	ooooo: Originating Centre from Common table C-11 ppp: Originating sub-centre from Common table C-12
6	Uuu	uu: Update sequence number (00 for original message)
7	Ssss	sss: Number of subsets included in the report

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Group No	Content	Meaning
8 - n	Bxxyyy, Cxxyyy, Dxxyyy and/or Rxxyyy	B, C, D: Indicators for CREX Tables B, C, D entries xxyyy : 5 digits which indicate references from CREX Tables B, C and D R : Indicator for replication xx : Number of replication descriptors yyy : Number of replications (delayed replication for yyy=0)
n+1	”E”	E: Optional check digit indicator

2.4 Section 2 - Data section

Table 4: Data section

Group No	Content	Meaning
1 to m	(d) Data values	d: Optional check digit Data values: Data values corresponding to section 1 descriptors

2.5 Section 3 - Optional section

Table 5: Optional section

Group No	Content	Meaning
1	SUPP	The four letters SUPP indicate the presence of a supplementary optional section
2 to p	Items for local use	Additional items for local use developed by generating Centre

2.6 Section 4 - End section

Table 6: End section

Group No	Content	Meaning
1	"7777"	End of CREX message

2.7 CREX decoding/encoding software

The CREX software is general and can decode/encode any CREX data. Combined with general BUFR software (for binary data representation) CREX to BUFR and BUFR to CREX program has been developed. Although the software is general, there are cases when it is not possible to convert some BUFR messages into CREX form due to the considerable differences between those two data formats(Operators and some Regulations).

2.7.1 Crex tables

CREX is Table driven code. It is comprised of four tables: Table A, B, C, D.

Table A - is used to classify the data content.

Table 7: Table A - Data category

Code figure	Data type
000	Surface data - land
001	Surface data - sea
002	Vertical soundings(other than satellite)
003	Vertical soundings(satellite)
004	Single level upper-air data)other than satellite)
005	Single level upper-air data(satellite)
006	Radar data
007	Synoptic features
008	Physical/chemical constituents
009	Dispersal and transport
010	Radiological data
011	CREX tables, complete replacement or update
012	Surface data(satellite)
013-019	Reserved
020	Status information
021	Radiances(satellite measured)
022-030	Reserved
031	Oceanographic data
032-100	Reserved
101	Image data
102-239	Reserved
240-254	For experimental use
255	Indicator for local use

Table B - A list of elements describing each element in full. It contains element reference, element name, element unit, scale and data width.
Table C - Data description operators

Table D - Strictly speaking, Table D is not necessary. Its main purpose is to describe the data in short way, making crex message smaller and cheaper for transmission. The Table D sequence may be combination of

Table 8: Table C

Reference	Operand	Operator name	Operating definition
C 01 YYY	YYY	Data width replacement	YYY characters (from 000 to 999) replace specified Table B data width
C 02 YYY	YYY	Scale factor replacement	YYY (from -99 to 999) replaces the specified Table B scale factor
C 05 YYY	YYY	Character insertion	YYY characters (from 001 to 999), including spaces, are inserted as a data field
C 07 YYY	YYY	Units replacement	Change unit to the unit defined in Common table C-6 by code figure equal to YYY, for example: YYY = 040 changes unit to Celsius YYY = 741 changes unit to km/h YYY = 201 changes unit to knot
C 60 YYY	YYY	National letters insertion	YYY national letters including spaces are inserted as a data field

Table B and D entries and Operators.

2.7.2 CREX table name convention

CREX software use only Table B and D to decode/encode CREX data. Table names are created as: BXXYYZZ and DXXYYZZ where:

```
B  - Crex Table B
D  - Crex Table D
XX - Crex Master table used '00'
YY - Crex Edition number used '01'
ZZ - Crex Table version number '03'
```

2.7.3 defaults

Integer missing value indicator:
NVIND=2147483647

Real missing value indicator:
RVIND=1.7E38

Environmental variables:
The following variable can be set to "true" to create CREX message with check digit.
USE_E=false
The PATH for CREX tables can be defined using CREX_TABLES variable
export CREX_TABLES=/.../

2.7.4 *Subroutine crexex*

Purpose
Decode Crex message into fully expanded form; returning information relevant for all CREX sections, expanded values, their names and units.

Interface

```
CALL CREXEX(KBUFL,YBUFF,KSUP,KSEC0,KSEC1,KSEC3,
            KELEM,CNAMES,CUNITS,KVALS,VALUES,CVALS,KERR)
```

where:

- Integer variables are denoted by first letter K.
- Real variables are denoted by first letter V.
- Character variables are denoted by first letter C.

Input arguments

- KBUFL - Length of CREX message (words)
- YBUFF - Character string containing Crex message
- KELEM - Integer (expected number of expanded elements)
- KVALS - Integer (expected number of data values)

Output arguments

- KSUP - Integer array of 9 words containing suplementary information
- KSEC0 - Integer array of 3 words containing CREX section 0 information
- KSEC1 - Integer array of at least 40 words containing CREX section 1 information
- KSEC3 - Integer array of 4 words containing
- CNAMES - Character*64 array of KELEM containing CREX Table B element names
- CUNITS - Character*24 array of KELEM containing CREX Table B units
- VALUES - Real*8 array of KVALS containing expanded data values
- CVALS - Character*80 array of KVALS containing CREX code table or CCITTIA5 CREX element entries
- KERR - Returned error code

KSUP Integer array of 9 words containing suplementary information

Array index	Word content
1	IDIM1, dimension of KSEC1
2	Reserved
3	IDIM3, dimension of KSEC3
4	Reserved
5	M (number of elements in values array, first index)
6	N (number of subsets,second index of values array)
7	JVC (number of elements in CVAL array)
8	total CREX message length in bytes
9	IDIM0, dimension of KSEC0

KSEC0 Integer array of 3 words containing CREX section 0 information

Array index	Word content
1	length of section 0 (bytes)
2	total length of CREX message in bytes
3	Reserved

KSEC1 Integer array of at least 40 words containing CREX section 1 information

Array index	Word content
1	Reserved
2	CREX Edition number
3	Originating Centre (oooo)
4	Update sequence number (uu)
5	Number of subsets (sss)
6	CREX data category (nnn)
7	International data sub-category (mmm)
8	Version number of local table used
9	Year (yyyy)
10	Month (mm)
11	Day (dd)
12	Hour (hh)
13	Minute (mm)
14	CREX Master table (tt)
15	Version number of Master table used (vv)
16	Originating sub-centre (ppp)
17	Bufr master table version number
18	Bufr version number of local table used
19-40	Reserved

KSEC3 Integer array of 4 words containing

Array index	Word content
1	Reserved
2	Reserved
3	Number of subsets
4	Reserved

Method

Crex message passed as argument to this routine is decoded section by section. Suplementary information and expanded data are returned as well as error code.

Before Section 1 expansion CREX Tables are loaded using Section 1 information to create Table names. The loaded tables are kept in memory and swapped only if the next message is requesting different tables.

Section 1 Data descriptors are fully expanded applying all necessary operators in force and creating a list of CREX Table B elements which correspond one to one to the data in the Data section (Section 2) of the CREX message.

Decoded data values are stored in the VALUES array. Corresponding element names and units are stored in the CNAMES and CUNITS arrays respectively.

If CREX Table B element is type character, corresponding VALUES element contains a real number which truncated to an integer represents

INDEX*1000+lenght
where:

- INDEX - subscript of the element in CVALS where character string is stored
- length - number of characters represented

In the case of many reports in the CREX message or multi-subset data, the one dimensional VALUES array contains all subsets of the data. The formula to find the index to the VALUES array of the i-th element of the observation is:

INDEX= I + (nsub-1)* KELEM
so the start of the next subset is KELEM apart.

Externals

```
None.
```

Reference

WMO -No. 306 Manual on Codes Volume I, Part B - Binary Codes

2.7.5 Error Codes

The list of hard end soft error codes returned by the routine is given in the following table.

Error number	Meaning
1	Start of CREX message not found
2	End of CREX message not found
3	Array to receive CREX message too small
6	Error during read CREX table B
7	Error during read CREX table C
8	Error during read CREX table D
9	Open error
10	Error during close CREX table B
11	Error during close CREX table C
12	Error during close CREX table D
13	Too many elements in the table
14	Argument KVALS too small
19	Delayed replication factor too big
20	Table D reference not found
21	Data descriptor operator not found
22	CREX Operator name not found
23	Table B reference not found
25	KELEM argument too small
26	Word pointer out of range
30	Number of elements greater than JELEM
31	Too few elements in KDATA array
32	Number of subsets equal to zero
33	Internal write error
34	Decimal to octal conversion error
35	Internal read error
36	Bad order of data descriptors
37	Wrong data descriptor
38	Open error on units.cinfig.dat file
39	Read error on units.cinfig.dat file
40	Could not find next section
41	
42	Wrong start of section 1 of CREX message
43	Could not find the end of section 1
44	Error during extraction of Master table
45	Error during extraction of Edition number
46	Error during extraction of version number
47	Unit not found

2.7.6 *Subroutine crexprs0*

Purpose
Print section 0 of crex message.

Interface

```
CALL CREXPRS0(KSEC0)
```

Input arguments

- KSEC0 - An array containing section 0 information

KSEC0 An INTEGER array (size 3) containing Crexr Section 0 information

Array index	Word content
1	Length of section 0 (bytes)
2	Total length of crex message (bytes)
3	Crex Edition number

Method

```
None.
```

Externals

```
None.
```

Reference

```
None.
```

2.7.7 Subroutine crexprs1

Purpose
Print section 1 of crex message.

Interface

```
CALL CREXPRS1(KSEC1,KSEC3,KTDLEN,KTDLST,KTDEXL,KTDEXP,
                              KELEM,CNAMES)
```

where

- Integer variables are denoted by first letter K.
- Real variables are denoted by first letter V.
- Character variables are denoted by first letter C

Input arguments

- KSEC1 - An integer array of at least 40 words containing CREX section 1 information
- KSEC3 - An integer array of 4 words containing number of subsets in the message
- KTDLEN - A number of data descriptors in section 1
- KTDLEN - A number of data descriptors in section 1
- KTDLST - An array containing data descriptors in section 1
- KTDEXL - A number of entries in list of expanded data descriptors
- KTDEXP - An array containig expanded data descriptors
- KELEM - An integer (expected number of expanded elements)
- Character*64 array of KELEM containing CREX Table B element names

KSEC1 Integer array of at least 40 words containing CREX section 1 information

Array index	Word content
1	Reserved
2	CREX Edition number
3	Originating Centre (oooo)
4	Update sequence number (uu)
5	Number of subsets (sss)
6	CREX data category (nnn)
7	International data sub-category (mmm)
8	Version number of local table used
9	Year (yyyy)
10	Month (mm)
11	Day (dd)
12	Hour (hh)
13	Minute (mm)
14	CREX Master table (tt)
15	Version number of Master table used (vv)
16	Originating sub-centre (ppp)
17	Bufr master table version number
18	Bufr version number of local table used
19-40	Reserved

KSEC3 Integer array of 4 words containing

Array index	Word content
1	Reserved
2	Reserved
3	Number of subsets
4	Reserved

Method

```
None.
```

Externals

```
None.
```

reference

```
None.
```

2.7.8 *Subroutine crexprt*

Purpose

Print expanded crex message.

Interface

```
CALL CREXPRT(K,KSUB1,KSUB2,KELEM,CNAMES,CUNITS,
             CVALS,KVALS,VALUES,KSUP,KSEC1,KERR)
```

where:

- Integer variables are denoted by first letter K.
- Real variables are denoted by first letter V.
- Character variables are denoted by first letter C.

Input arguments

- K - Switch to print with/witout content of code tables 0 - no code table content 1 - yes code table content
- KSUB1 - Starting subset
- KSUB2 - Ending subset
- KELEM - Dimension of cnames, cunits array
- CNAMES - Character*64 array containing element names
- CUNITS - Character*24 array containig units
- KVALS - Dimension of values array
- VALUES - Real*8 array (expanded data values)
- KSUP - Integer array of 9 words containing supplementary information
- KSEC1 - Integer array of at least 40 words containing CREX section 1 information

KSUP Integer array of 9 words containing suplementary information

Array index	Word content
1	IDIM1, dimension of KSEC1
2	Reserved
3	IDIM3, dimension of KSEC3
4	Reserved
5	M (number of elements in values array, first index)
6	N (number of subsets,second index of values array)
7	JVC (number of elements in CVAL array)
8	total CREX message length in bytes
9	IDIM0, dimension of KSEC0

KSEC1 Integer array of at least 40 words containing CREX section 1 information

Array index	Word content
1	Reserved
2	CREX Edition number
3	Originating Centre (oooo)
4	Update sequence number (uu)
5	Number of subsets (sss)
6	CREX data category (nnn)
7	International data sub-category (mmm)
8	Version number of local table used
9	Year (yyyy)
10	Month (mm)
11	Day (dd)
12	Hour (hh)
13	Minute (mm)
14	CREX Master table (tt)
15	Version number of Master table used (vv)
16	Originating sub-centre (ppp)
17	Bufr master table version number
18	Bufr version number of local table used
19-40	Reserved

Output arguments

- KERR - Returned error code

Method

```
None.
```

Externals

```
None.
```

Reference

```
None.
```

2.7.9 Subroutine crexen

Purpose
Creates CREX message.

Interface

```
      CALL CREXEN(KSEC0,KSEC1,KSEC3,
                  KTDLEN,CREXKTDLST,KDLEN,KDATA,KELEM,KVALS,
                  VALUES,CVALS,KBUFL,KBUFF,KERR)
```

where:

- Integer variables are denoted by first letter K.
- Real variables are denoted by first letter V.
- Character variables are denoted by first letter C.

Input arguments

- KBUFL - Length of CREX message (words)
- KELEM - An integer (expected number of expanded elements)
- KVALS - An integer (expected number of data values)

Output arguments

- KSUP - An Integer array of 9 words containing suplementary information
- KSEC0 - An Integer array of 3 words containing CREX section 0 information
- KSEC1 - An Integer array of at least 40 words containing CREX section 1 information
- KSEC3 - An Integer array of 4 words containing CREX section 3 information
- CNAMES - Character*64 array of KELEM containing CREX section 3 information
- CUNITS - Character*24 array of KELEM containing CREX Table B units
- VALUES - Real*8 array of KVALS containing expanded data values
- CVALS - Character*80 array of KVALS containing CREX code table or CCITTIA5 CREX element entries
- KERR - Returned error code

KSUP Integer array of 9 words containing suplementary information

Array index	Word content
1	IDIM1, dimension of KSEC1
2	Reserved
3	IDIM3, dimension of KSEC3
4	Reserved
5	M (number of elements in values array, first index)
6	N (number of subsets,second index of values array)
7	JVC (number of elements in CVAL array)
8	total CREX message length in bytes
9	IDIM0, dimension of KSEC0

KSEC0 Integer array of 3 words containing CREX section 0 information

Array index	Word content
1	length of section 0 (bytes)
2	total length of CREX message in bytes
3	Reserved

KSEC1 Integer array of at least 40 words containing CREX section 1 information

Array index	Word content
1	Reserved
2	CREX Edition number
3	Originating Centre (oooo)
4	Update sequence number (uu)
5	Number of subsets (sss)
6	CREX data category (nnn)
7	International data sub-category (mmm)
8	Version number of local table used
9	Year (yyyy)
10	Month (mm)
11	Day (dd)
12	Hour (hh)
13	Minute (mm)
14	CREX Master table (tt)
15	Version number of Master table used (vv)
16	Originating sub-centre (ppp)
17	Bufr master table version number
18	Bufr version number of local table used
19-40	Reserved

KSEC3 Integer array of 4 words containing

Array index	Word content
1	Reserved
2	Reserved
3	Number of subsets
4	Reserved

Method

```
None.
```

Externals

```
None.
```

Reference

```
None.
```

2.8 CREX tools

In this section a number of useful tools is presented. A TDEXP example program to expand data descriptors, ”BUFR to CREX” conversion program and ”CREX to BUFR” conversion usage.

2.8.1 TDEXP program

This program might be very useful in cases when one need to create a new CREX message starting from CREX Table D entry or any combination of CREX Table B, C or D entries. It will expand those descriptors in the full expanded list. Delayed replications should be set at least to one to make visible all possible entries and than changed to the required values. If delayed replication is set to zero a number of Table B elements may not show up.

```
      PROGRAM TDEXP
C
C**** *TDEXP*
C
C
C     PURPOSE.
C     --------
C         Expands list of CREX data descriptors.
C
C
C**   INTERFACE.
C     ----------
C
C             *CALL CREXDES(K,KSEC1,KTDLEN,CREXKTDLST,KDLEN,KDATA,KELEM,
C                           KTDEXL,CREXKTDEXP,CNAMES,CUNITS,KERR)*
C
C        INPUT :
C
C           *K*           -  AN INTEGER, PRINTING SWITCH 0 - NO PRINT
C                                                        1 - PRINT
C           *KSEC1*       -  INTEGER ARRAY OF AT LEAST 40 WORDS CONTAINING
C                            SECTION 1 INFORMATION
C           *KTDLEN*      -  INTEGER NUMBER OF DATA DESCRIPTORS IN SECTION 1
C           *CREXKTDLST*  -  INTEGER ARRAY OF AT LEAST KTDLEN WORDS
C                            CONTAINING DATA DESCRIPTORS FOR CREX SECTION 1
C           *KDLEN*       -  INTEGER (DIMENSION OF KDATA ARRAY)
C           *KDATA*       -  INTEGER ARRAY CONTAINING DATA NEEDED FOR DATA
C                            DESCRIPTOR EXPANSION (DELAYED REPLICATION FACTORS)
C                            WHICH APPEAR IN THE VALUES ARRAY
C
C           *KELEM*       -  INTEGER NUMBER OF ELEMENTS IN BUFR TEMPLATE.
C
C        OUTPUT:
C           *KTDEXL*      - AN INTEGER CONTAINING NUMBER OF EXPANDED ELEMENTS
C           *CREXKTDEXP*  - AN INTEGER ARRAY CONTAINING EXPANDED LIST OF DESCRIPTORS
C           *CNAMES*      - CHARACTER*64 ARRAY OF KELEM CONTAINING ELEMENT NAMES
C           *CUNITS*      - CHARACTER*24 ARRAY OF KELEM CONTAINING ELEMENT UNITS
C           *KERR*        - RETURN ERROR CODE
C
C     METHOD.
C     -------
C
C          NONE.
C
C
C     EXTERNALS.
C     ----------
C
C
C     REFERENCE.
C     ----------
C
C          NONE.
C
C     AUTHOR.
C     -------
C
C          M. DRAGOSAVAC    *ECMWF*       07/01/2004.
C
C
C     MODIFICATIONS.
C     --------------
C
C          NONE.
C
C
```

```
      IMPLICIT LOGICAL(L,O,G), CHARACTER*8(C,H,Y)
C
      PARAMETER(JSEC1=40,JSEC3=4)
      PARAMETER (KDLEN=200,KELEM=4000)
C
      DIMENSION KSEC1(JSEC1)
C
      DIMENSION KDATA(KDLEN)
C
      CHARACTER*64 CNAMES(KELEM)
      CHARACTER*24 CUNITS(KELEM)
      CHARACTER*6  CREXKTDLST(KELEM)
      CHARACTER*6  CREXKTDEXP(KELEM)
C
      DATA CNAMES/KELEM*' '/,CUNITS/KELEM*' '/
C
C     ------------------------------------------------------------------
C*          1. INITIALIZE CONSTANTS AND VARIABLES.
C              -----------------------------------
 100  CONTINUE
C
C
      RVIND=1.7E38
C
C     INITIALIZE DELAYED REPLICATION FACTORS
C     CHANGE THIS LOOP AS REQUIRED
C
      DO I=1,KDLEN
      KDATA(I)=0
      END DO
C
C     SET DATA DECSRIPTORS
C     HERE YOU CAN MAKE ANY LIST OF CREX ENTRIES
C
      N=1
      CREXKTDLST( N)="D07005"    ! Table D entry to be expanded
      KTDLEN=N
C
C     SECTION 1 CONTENT
C
      KSEC1(2)=1     ! CREX EDITION NUMBER
      KSEC1(8)=1     ! VERSION NUMBER OF LOCAL TABLE USED
      KSEC1(15)=3    ! VERSION NUMBER OF MASTER TABLE USED
C
C     SECTION 3 CONTENT
C
      K=1
      CALL CREXDES(K,KSEC1,KTDLEN,CREXKTDLST,KDLEN,KDATA,KELEM,
     1            KTDEXL,CREXKTDEXP,CNAMES,CUNITS,KERR)
C
      END
```

2.8.2 BUFR to CREX conversion

There is a need for automatic conversion between BUFR and CREX data formats. That might be very useful when some centres can not handle meteorological binary data.

bufr2crex -i input_bufr -o out_crex

where:

input_bufr - file name containing BUFR data

out_crex - file name containing CREX data

2.8.3 CREX to BUFR conversion

crex2bufr -i input_crex -o out_bufr

where:

input_crex - file name containing CREX data

out_bufr - file name containing BUFR data

2.8.4 Create CREX message

The following program is an example how to use the software to create a single CREX message. With small modifications it could create any number of CREX data.

```
      PROGRAM CREX
C
C**** *CREX*
C
C
C     PURPOSE.
C     --------
C         Example of creating CREX message
C
C
C**   INTERFACE.
C     ----------
C
C          NONE.
C
C     METHOD.
C     -------
C
C          NONE.
C
C
C     EXTERNALS.
C     ----------
C
C
C     REFERENCE.
C     ----------
C
C          NONE.
C
C     AUTHOR.
C     -------
C
C          MILAN DRAGOSAVAC    *ECMWF*       07/01/2004.
C
C
C     MODIFICATIONS.
C     --------------
C
C          NONE.
C
C
      IMPLICIT LOGICAL(O,G), CHARACTER*8(C,H,Y)
C
      PARAMETER(JSUP =   9,JSEC0=   3,JSEC1= 40,JSEC3=    4,
     1          JBUFL= 8192)
C
      PARAMETER (KDLEN=200,KELEM=2000)
      PARAMETER (KVALS=80000)
C
      DIMENSION KBUFR(JBUFL)
      DIMENSION KSEC0(JSEC0),KSEC1(JSEC1), KSEC3(JSEC3)
C
      REAL*8  VALUES(KVALS)
      CHARACTER*6  CREXKTDLST(KELEM),CREXKTDEXP(KELEM)
      DIMENSION KDATA(KDLEN)
C
      CHARACTER*64 CNAMES(kelem)
      CHARACTER*24 CUNITS(kelem)
      CHARACTER*80 CVALS(KVALS)
      CHARACTER*80 YENC
      REAL*8 RVIND
      CHARACTER*256 COUT, CARG(4)

      CHARACTER*15000 YOUT
      EQUIVALENCE(KBUFR(1),YOUT)
C
C
C     ------------------------------------------------------------------
C*          1. INITIALIZE CONSTANTS AND VARIABLES.
C              -----------------------------------
 100  CONTINUE
C
      RVIND=1.7E38
      NVIND=2147483647
C
C     Input file name
C
C     Get input and output file name.
C
      NARG=IARGC()
C
      IF(NARG.LT.2) THEN
```

```
          print*,'Usage -- create_crex -o outfile'
          STOP
       END IF
C
       COUT=' '
       CFIN=' '
C
       DO 101 J=1,NARG
       CALL GETARG(J,CARG(J))
 101   CONTINUE
C
       DO 102 J=1,NARG,2
         IF(CARG(J).EQ.'-o') THEN
            COUT=CARG(J+1)
         ELSE
             print*,'Usage -- create_crex -o outfile'
             STOP
         END IF
 102   CONTINUE
C
       JJ=INDEX(COUT,' ')
       JJ=JJ-1
C
       CALL PBOPEN(IUNIT1,COUT(1:JJ),'w',IRET)
       IF(IRET.EQ.-1) STOP 'open failed on bufr.dat'
       IF(IRET.EQ.-2) STOP 'Invalid file name'
       IF(IRET.EQ.-3) STOP 'Invalid open mode specified'
C
C      INITIALIZE DELAYED REPLICATION FACTORS OR REFERENCE VALUES ETD.
C
       KDATA( 1)=0
       KDATA( 2)=0
       KDATA( 3)=0
       KDATA( 4)=0
C
       DO I=5,KDLEN
        KDATA(I)=0
       END DO
C
       KDLENG=200
C
C      SET DATA DECSRIPTORS
C
       CREXKTDLST(  1)= "D07005"
c
       KTDLEN=1

       KSEC0(1)=0
       KSEC0(2)=0
       KSEC0(3)=2      ! Crex edition number
C
C      SECTION 1 CONTENT
C
       KSEC1(1)=0
       KSEC1(2)=2     ! CREX Edition number (currently)
       KSEC1(3)=98    ! Originating centre
       KSEC1(4)=0     ! Update sequence number
       KSEC1(5)=1     ! Number of subsets
       KSEC1(6)=0     ! CREX data category
       KSEC1(7)=1     ! International data sub-category
       KSEC1(8)=0     ! version number of local table used
       KSEC1(9)=2003  ! Year
       KSEC1(10)=12   ! Month
       KSEC1(11)=2   ! Day
       KSEC1(12)=12   ! Hour
       KSEC1(13)=0    ! Minute
       KSEC1(14)=0    ! CREX Master table ( 0 for standard WMO crex tables)
       KSEC1(15)=3    ! CREX table version number
       KSEC1(16)=0    ! Originating sub-centre
       KSEC1(17)=12   ! BUFR master table version number
       KSEC1(18)=0    ! BUFR local table version number
C

       K=1
       CALL CREXDES(K,KSEC1,KTDLEN,CREXKTDLST,KDLEN,KDATA,KELEM,
      1            KTDEXL,CREXKTDEXP,CNAMES,CUNITS,KERR)
       IF(KERR.NE.0) THEN
          print*,'CREXDES: error'
          STOP
       END IF

C
C      SET VALUES TO BE PACKED
C
       K=1
       KSUBSETS=1
c
       do j=1,ksubsets

       ik=(j-1)*kelem
       n=1
       values(n+ik)=13.          ! Block number
       n=n+1                     !
```

```
      values(n+ik)=274.         ! station number
      n=n+1                     !
      values(n+ik)=0.           ! type of station
      n=n+1                     !
      values(n+ik)=2003.        ! year
      n=n+1                     !
      values(n+ik)=12.          ! month
      n=n+1                     !
      values(n+ik)=2.           ! day
      n=n+1                     !
      values(n+ik)=12.          ! hour
      n=n+1                     !
      values(n+ik)=0.           ! minute
      n=n+1
      values(n+ik)=45.2         ! lat
      n=n+1                     !
      values(n+ik)=20.5         ! lon
      n=n+1                     !
      values(n+ik)=170.         ! station height
      n=n+1                     !
      values(n+ik)=102000.      ! station level pressure
      n=n+1
      values(n+ik)=102500.      ! msl pressure
      n=n+1                     !
      values(n+ik)=100.         ! pressure change
      n=n+1                     !
      values(n+ik)=rvind        ! characteristic of pressure change
      n=n+1                     !
      values(n+ik)=300.         ! wind dir
      n=n+1                     !
      values(n+ik)=8.5          ! wind speed
      n=n+1                     !
      values(n+ik)=-5.0         ! T
      n=n+1                     !
      values(n+ik)=-7.0         ! Td
      n=n+1                     !
      values(n+ik)=70.          ! RH
      n=n+1                     !
      values(n+ik)=1000.        ! visibility
      n=n+1                     !
      values(n+ik)=rvind
      n=n+1                     !
      values(n+ik)=rvind
      n=n+1                     !
      values(n+ik)=rvind
      n=n+1                     !
      values(n+ik)=rvind
      n=n+1                     !
      values(n+ik)=rvind
c
      do i=n,47
      n=n+1                     !
      values(n+ik)=rvind
      end do
C                     !
      end do                     !


C     set ccittia5 call sign
C
      do i=1,200
      cvals( i )=' '
      end do
C
C
C     SECTION 3 CONTENT
C
      KSEC3(1)=0     ! TOTAL LENGTH OF SECTION 3
      KSEC3(2)=0     ! RESERVED
      KSEC3(3)= ksubsets ! number of subsets
      KSEC3(4)=0
C
      IREP=0
C
C
C*          6. PACK CREX MESSAGE
C              -----------------
 600  CONTINUE
C
C
      KERR=0
      CALL CREXEN( KSEC0,KSEC1,KSEC3,
     1             KTDLEN,crexKTDLST,KDLENG,KDATA,KELEM,
     2             KVALS,VALUES,CVALS,KBUFL,KBUFR,KERR)
C

      IF(KERR.GT.0) THEN
         CALL EXIT(2)
      ELSEIF(KERR.lt.0) then
         print*,'Encoding return_code=',kerr
      END IF
C
C
```

```
      ILEN=KBUFL
C
      IERR=0
      CALL PBWRITE(IUNIT1,KBUFR,ILEN,IERR)
      IF(IERR.LT.0) THEN
         print*,'Error writing into target file.'
         CALL EXIT(2)
      END IF
C
C     Print CREX message on screen
      print*,yout(1:ilen)
C
C     -----------------------------------------------------------------
C*          7. UNPACK MESSAGE.
C              -------------
 700  CONTINUE
C
C
 900  CONTINUE
C
      STOP
      END
```

The above program creates the following CREX message:

```
CREX++
T0002031200 Y20031202 H1200 A000001 P00098000 U00 S001 D07005
++
 13 274 0 2003 12 02 12 00 4520000 02050000 00170 10200 10250
 0010 // 300 0085 -050 -070 070 0100 /// // // /// // // ////
 // // // // // // //// // // // //// // // // //// // // // ////
++
7777
```

2.8.5 Decode CREX message

The program which follows is an example program to decode CREX messages.

```
      PROGRAM DECODE_CREX
C
C**** *DECODE_CREX*
C
C
C     PURPOSE.
C     --------
C         DECODE CREX CODED DATA
C
C
C**   INTERFACE.
C     ----------
C
C          NONE.
C
C     METHOD.
C     -------
C
C          NONE.
C
C
C     EXTERNALS.
C     ----------
C
C          CREXEX
C          CREXSEL2
C          CREXPRS0
C          CREXPRT
C          PBOPEN
C          PBCLOSE
C          PBCREX
C          GETARG
C
C
C
C
C     REFERENCE.
C     ----------
C
C          NONE.
C
C     AUTHOR.
C     -------
C
C          M. DRAGOSAVAC    *ECMWF*       15/09/2003.
C
C
C     MODIFICATIONS.
C     --------------
C
C          NONE.
C
C
      IMPLICIT LOGICAL(L,O,G), CHARACTER*8(C,H,Y)
C
      PARAMETER(JSUP =   9,JSEC0=   3,JSEC1= 40,JSEC2= 64 ,JSEC3=    4,
     1          JSEC4=   2,JELEM=40000,JSUBS=400,JCVAL=150 ,JBUFL=80000,
#ifdef JBPW_64
     2          JBPW =  64,JTAB =3000,JCTAB=120,JCTST=1800,JCTEXT=1200,
#else
     2          JBPW =  32,JTAB =3000,JCTAB=120,JCTST=1800,JCTEXT=1200,
#endif
     3          JWORK=360000,JKEY=46,JBYTE=80000)
C
      PARAMETER (KELEM=40000)
      PARAMETER (KVALS=360000)
C
      DIMENSION KBUFF(JBUFL)
      DIMENSION KSUP(JSUP)  ,KSEC0(JSEC0),KSEC1(JSEC1)
      DIMENSION KSEC3(JSEC3)
C
      REAL*8 VALUES(KVALS)
      REAL*8 RVIND
      REAL*8 EPS
C
      DIMENSION KTDLST(JELEM),KTDEXP(JELEM)
      DIMENSION KDATA(200)
C
      CHARACTER*256 CF,CARG(4)
      CHARACTER*64 CNAMES(KELEM)
      CHARACTER*24 CUNITS(KELEM)
      CHARACTER*80 CVALS(KVALS)
      CHARACTER*80 YENC
      CHARACTER*320000 YBUFF
C
```

```
      EQUIVALENCE(YBUFF,KBUFF(1))
      EXTERNAL GETARG
C
C     ----------------------------------------------------------------
C*          1. INITIALIZE CONSTANTS AND VARIABLES.
C              -----------------------------------
 100  CONTINUE
C
      NBYTPW=JBPW/8
      RVIND=1.7E38
      NVIND=2147483647
      IOBS=0
      EPS=1.E-8
      N=0
      OO=.FALSE.
      CF=' '
C
C     INPUT FILE NAME
C
C     GET INPUT AND OUTPUT FILE NAME.
C
      NARG=IARGC()
C
      IF(NARG.NE.2) THEN
         PRINT*,'USAGE -- decode_crex -i infile '
         STOP
      END IF
C
      DO 101 J=1,NARG
      CALL GETARG(J,CARG(J))
 101  CONTINUE
C
      IF(CARG(1).NE.'-I'.AND.CARG(1).NE.'-i'.OR.
     1   CARG(2).EQ.' ') THEN
         PRINT*,'USAGE -- decode_crex -i inpfile '
         STOP
      END IF

C
      CF=CARG(2)
      II=INDEX(CF,' ')
      II=II-1
C
C*          1.2 OPEN FILE CONTAINING CREX DATA.
C               -------------------------------
 120  CONTINUE
C
      IRET=0
      CALL PBOPEN(IUNIT,CF(1:II),'R',IRET)
      IF(IRET.EQ.-1) STOP 'OPEN FAILED ON INPUT FILE'
      IF(IRET.EQ.-2) STOP 'INVALID FILE NAME'
      IF(IRET.EQ.-3) STOP 'INVALID OPEN MODE SPECIFIED'
C
C     ---------------------------------------------------------------
C*          2. SET REQUEST FOR EXPANSION.
C              --------------------------
 200  CONTINUE
C
      OPRT=.FALSE.
      OENC=.FALSE.
      WRITE(*,'(A,$)') ' DO YOU WANT TO PRINT( Y/N ) : '
      READ (*,'(A)') YENC
      IF(YENC(1:1).EQ.'Y'.OR.YENC(1:1).EQ.'y') THEN
         OPRT=.TRUE.
      END IF
C
 201  CONTINUE
C
      WRITE(*,'(A,$)') ' DO YOU WANT TO PRINT SECTION 0-3( Y/N ) : '
      READ (*,'(A,$)') YENC
      OSEC3=.FALSE.
      IF(YENC(1:1).EQ.'Y'.OR.YENC(1:1).EQ.'y') OSEC3=.TRUE.
C
 210  CONTINUE
C
C
C     ---------------------------------------------------------------
C*          3.  READ CREX MESSAGE.
C               ------------------
 300  CONTINUE
C
      IERR=0
      IRET=0
C
      YBUFF(1:15000)=' '
      CALL PBCREX(IUNIT,KBUFF,JBUFL,KBUFL,IRET)
      IF(IRET.LT.0) THEN
         IF(IRET.EQ.-1) THEN
            PRINT*,'NUMBER OF CREX MESSAGES PROCESSED ',N
            PRINT*,'NUMBER OF CREX OBSERVATIONS       ',IOBS
            STOP 'END OF FILE '
         END IF
         IF(IRET.EQ.-2) STOP 'ERROR IN HANDLING THE FILE'
```

```
         IF(IRET.EQ.-3) STOP 'ERROR DURING READ CREX FILE.'
      END IF
C
      N=N+1
      PRINT*,'---------------------------------',N
      print*,YBUFF(1:KBUFL)
C
C     -----------------------------------------------------------------
C*          4. EXPAND CREX MESSAGE.
C              -------------------
 400  CONTINUE
C
      IERR=0
      CALL CREXEX(KBUFL,YBUFF,KSUP,KSEC0 ,KSEC1,KSEC3 ,
     1            KELEM,CNAMES,CUNITS,KVALS,VALUES,CVALS,IERR)
C
      IF(IERR.NE.0) THEN
         PRINT*,'CREX ERROR ', IERR
         CALL EXIT(2)
      END IF
C
C
      IOBS=IOBS+KSEC3(3)
C
      ISUBSET=1
      CALL CREXSEL2(ISUBSET,KELEM,KTDLEN,KTDLST,KTDEXL,KTDEXP,
     1              CNAMES,CUNITS,KERR)
      IF(KERR.NE.0) THEN
         PRINT*,'CREXSEL: ERROR.'
         CALL EXIT(2)
      END IF
C
C*          4.1 PRINT CONTENT OF EXPANDED DATA.
C               ------------------------------
 410  CONTINUE
C
      IF(.NOT.OPRT) GO TO 300
      IF(.NOT.OSEC3) GO TO 450
C
C*          4.2 PRINT SECTION ZERO OF CREX MESSAGE.
C               ----------------------------------
 420  CONTINUE
C
      CALL CREXPRS0(KSEC0)
C
C*          4.3 PRINT SECTION ONE OF CREX MESSAGE.
C               ----------------------------------
 430  CONTINUE
C
      ISUBSET=1
      CALL CREXSEL2(ISUBSET,KELEM,KTDLEN,KTDLST,KTDEXL,KTDEXP,
     1              CNAMES,CUNITS,KERR)
      IF(KERR.NE.0) CALL EXIT(2)
C
      CALL CREXPRS1(KSEC1,KSEC3,KTDLEN,KTDLST,KTDEXL,
     1              KTDEXP,KELEM,CNAMES)
C
C
C
C*          4.5 PRINT SECTION 2 OF CREX MESSAGE.
C               ----------------------------------
 450  CONTINUE
C
C
C*         4.6 PRINT SECTION 2 (DATA).
C              ----------------------
 460  CONTINUE
C
C          IN THE CASE OF MANY SUBSETS DEFINE RANGE OF SUBSETS
C
      IF(.NOT.OO) THEN
      WRITE(*,'(A,$)') ' STARTING SUBSET TO BE PRINTED : '
      READ(*,'(BN,I4)')   IST
      WRITE(*,'(A,$)') ' ENDING SUBSET TO BE PRINTED : '
      READ(*,'(BN,I4)')   IEND
      OO=.FALSE.
      END IF
C
C              PRINT DATA
C
      ICODE=0
      CALL CREXPRT(ICODE,IST,IEND,KELEM,CNAMES,CUNITS,CVALS,
     1             KVALS,VALUES,KSUP,KSEC1,IERR)
C
C
      GO TO 300
C

C     -----------------------------------------------------------------
 900  CONTINUE
C
      END
```

2.9 Examples

2.9.1 decode CREX message

Let us have an input file called st082.crex containing following CREX multi-subset message:

```
CREX++^M
T000103 A005 D01043 D04001++^M
 0254 01 2003 11 25 17 00 00 3990000 -08980000 02 02500 -437 255^M
 0617+^M
 0254 01 2003 11 25 17 00 00 3960000 -08960000 02 02600 -415 250^M
 0596+^M
 0254 01 2003 11 25 17 00 00 3890000 -08960000 02 03300 -371 255^M
 0396++^M
7777^M
```

This is a satob message containing three reports.

Run **decode_crex -i st082** and answer as in an example:

```
 DO YOU WANT TO PRINT( Y/N ) : y
 DO YOU WANT TO PRINT SECTION 0-3( Y/N ) : y

 ---------------------------------- 1
 CREX Tables to be loaded B000103,D000103

          CREX SECTION 0

 LENGTH OF SECTION 0 (BYTES)            4
 TOTAL LENGTH OF CREX MESSAGE (BYTES)  273

         CREX SECTION 1

 CREX EDITION NUMBER              1
 CREX MESSAGE TYPE                5
 VERSION NUMBER OF LOCAL TABLE    0
 VERSION NUMBER OF MASTER TABLE   3
 CREX MASTER TABLE                0

 NUMBER OF SUBSETS                3



       DATA DESCRIPTORS (UNEXPANDED)


    1  D01043
    2  D04001


       DATA DESCRIPTORS (EXPANDED)

    1  B01007  SATELLITE IDENTIFIER
    2  B02023  SATELLITE DERIVED WIND COMPUTATION METHOD
    3  B04001  YEAR
    4  B04002  MONTH
    5  B04003  DAY
    6  B04004  HOUR
    7  B04005  MINUTE
    8  B04006  SECOND
    9  B05001  LATITUDE (HIGH ACCURACY)
   10  B06001  LONGITUDE (HIGH ACCURACY)
   11  B08003  VERTICAL SIGNIFICANCE (SATELLITE OBSERVATIONS)
   12  B10004  PRESSURE
   13  B12001  TEMPERATURE/DRY-BULB TEMPERATURE
   14  B11001  WIND DIRECTION
   15  B11002  WIND SPEED

 STARTING SUBSET TO BE PRINTED : 1
 ENDING SUBSET TO BE PRINTED : 3

     1 SATELLITE IDENT             254.0000 CODE TABLE 1007
     2 SATELLITE DERIV               1.0000 CODE TABLE 2023
     3 YEAR                       2003.0000 YEAR
     4 MONTH                        11.0000 MONTH
     5 DAY                          25.0000 DAY
     6 HOUR                         17.0000 HOUR
     7 MINUTE                         .0000 MINUTE
     8 SECOND                         .0000 SECOND
     9 LATITUDE (HIGH               39.9000 DEGREE
    10 LONGITUDE (HIGH             -89.8000 DEGREE
    11 VERTICAL SIGNIF               2.0000 CODE TABLE 8003
```

```
   12 PRESSURE                 25000.0000 PA
   13 TEMPERATURE/DRY            -43.7000 C
   14 WIND DIRECTION             255.0000 DEGREE TRUE
   15 WIND SPEED                  61.7000 M/S

    1 SATELLITE IDENT            254.0000 CODE TABLE 1007
    2 SATELLITE DERIV              1.0000 CODE TABLE 2023
    3 YEAR                      2003.0000 YEAR
    4 MONTH                       11.0000 MONTH
    5 DAY                         25.0000 DAY
    6 HOUR                        17.0000 HOUR
    7 MINUTE                        .0000 MINUTE
    8 SECOND                        .0000 SECOND
    9 LATITUDE (HIGH              39.6000 DEGREE
   10 LONGITUDE (HIGH            -89.6000 DEGREE
   11 VERTICAL SIGNIF              2.0000 CODE TABLE 8003
   12 PRESSURE                 26000.0000 PA
   13 TEMPERATURE/DRY            -41.5000 C
   14 WIND DIRECTION             250.0000 DEGREE TRUE
   15 WIND SPEED                  59.6000 M/S

    1 SATELLITE IDENT            254.0000 CODE TABLE 1007
    2 SATELLITE DERIV              1.0000 CODE TABLE 2023
    3 YEAR                      2003.0000 YEAR
    4 MONTH                       11.0000 MONTH
    5 DAY                         25.0000 DAY
    6 HOUR                        17.0000 HOUR
    7 MINUTE                        .0000 MINUTE
    8 SECOND                        .0000 SECOND
    9 LATITUDE (HIGH              38.9000 DEGREE
   10 LONGITUDE (HIGH            -89.6000 DEGREE
   11 VERTICAL SIGNIF              2.0000 CODE TABLE 8003
   12 PRESSURE                 33000.0000 PA
   13 TEMPERATURE/DRY            -37.1000 C
   14 WIND DIRECTION             255.0000 DEGREE TRUE
   15 WIND SPEED                  39.6000 M/S

 NUMBER OF CREX MESSAGES PROCESSED  1
 NUMBER OF CREX OBSERVATIONS        3
```

Let us decode CREX Edition 2 message:

```
CREX++
T0002031200 Y20031202 H1200 A000001 P00098000 U00 S001 D07005
++
 13 274 0 2003 12 02 12 00 4520000 02050000 00170 10200 10250
 0010 // 300 0085 -050 -070 070 0100 /// // // /// // // ////
 // // // // // // //// // // // //// // // // //// // // // ////
++
7777
```

```
 CREX Tables to be loaded B000203,D000203

          CREX SECTION 0

 LENGTH OF SECTION 0 (BYTES)             4
 TOTAL LENGTH OF CREX MESSAGE (BYTES)  283

         CREX SECTION 1

 CREX EDITION NUMBER                2
 ORIGINATING CENTRE                98
 ORIGINATING SUB-CENTRE             0
 UPDATE SEQUENCE NUMBER             0
 CREX DATA CATEGORY                 0
 INTERNATIONAL DATA SUB-CATEGORY    1
 YEAR                            2003
 MONTH                             12
 DAY                                2
 HOUR                              12
 MINUTE                             0
 VERSION NUMBER OF MASTER TABLE     3
 VERSION NUMBER OF LOCAL TABLE      0
 CREX MASTER TABLE                  0
 BUFR MASTER TABLE NUMBER          12
 BUFR VERSION OF LOCAL TABLE        0

 NUMBER OF SUBSETS                  1


        DATA DESCRIPTORS (UNEXPANDED)

    1  D07005
```

```
        DATA DESCRIPTORS (EXPANDED)

     1  B01001  WMO BLOCK NUMBER
     2  B01002  WMO STATION NUMBER
     3  B02001  TYPE OF STATION
     4  B04001  YEAR
     5  B04002  MONTH
     6  B04003  DAY
     7  B04004  HOUR
     8  B04005  MINUTE
     9  B05001  LATITUDE (HIGH ACCURACY)
    10  B06001  LONGITUDE (HIGH ACCURACY)
    11  B07001  HEIGHT OF STATION (SEE NOTE 1)
    12  B10004  PRESSURE
    13  B10051  PRESSURE REDUCED TO MEAN SEA LEVEL
    14  B10061  3-HOUR PRESSURE CHANGE
    15  B10063  CHARACTERISTIC OF PRESSURE TENDENCY
    16  B11011  WIND DIRECTION AT 10 M
    17  B11012  WIND SPEED AT 10 M
    18  B12004  DRY-BULB TEMPERATURE AT 2 M
    19  B12006  DEW-POINT TEMPERATURE AT 2 M
    20  B13003  RELATIVE HUMIDITY
    21  B20001  HORIZONTAL VISIBILITY
    22  B20003  PRESENT WEATHER (SEE NOTE 1)
    23  B20004  PAST WEATHER (1) (SEE NOTE 2)
    24  B20005  PAST WEATHER (2) (SEE NOTE 2)
    25  B20010  CLOUD COVER (TOTAL)
    26  B08002  VERTICAL SIGNIFICANCE (SURFACE OBSERVATIONS)
    27  B20011  CLOUD AMOUNT
    28  B20013  HEIGHT OF BASE OF CLOUD
    29  B20012  CLOUD TYPE
    30  B20012  CLOUD TYPE
    31  B20012  CLOUD TYPE
    32  B08002  VERTICAL SIGNIFICANCE (SURFACE OBSERVATIONS)
    33  B20011  CLOUD AMOUNT
    34  B20012  CLOUD TYPE
    35  B20013  HEIGHT OF BASE OF CLOUD
    36  B08002  VERTICAL SIGNIFICANCE (SURFACE OBSERVATIONS)
    37  B20011  CLOUD AMOUNT
    38  B20012  CLOUD TYPE
    39  B20013  HEIGHT OF BASE OF CLOUD
    40  B08002  VERTICAL SIGNIFICANCE (SURFACE OBSERVATIONS)
    41  B20011  CLOUD AMOUNT
    42  B20012  CLOUD TYPE
    43  B20013  HEIGHT OF BASE OF CLOUD
    44  B08002  VERTICAL SIGNIFICANCE (SURFACE OBSERVATIONS)
    45  B20011  CLOUD AMOUNT
    46  B20012  CLOUD TYPE
    47  B20013  HEIGHT OF BASE OF CLOUD

 STARTING SUBSET TO BE PRINTED : 1
 ENDING SUBSET TO BE PRINTED :  1

     1 WMO BLOCK NUMBE              13.0000 NUMERIC
     2 WMO STATION NUM             274.0000 NUMERIC
     3 TYPE OF STATION               0.0000 CODE TABLE 2001
     4 YEAR                       2003.0000 YEAR
     5 MONTH                        12.0000 MONTH
     6 DAY                           2.0000 DAY
     7 HOUR                         12.0000 HOUR
     8 MINUTE                        0.0000 MINUTE
     9 LATITUDE (HIGH               45.2000 DEGREE
    10 LONGITUDE (HIGH              20.5000 DEGREE
    11 HEIGHT OF STATI             170.0000 M
    12 PRESSURE                 102000.0000 PA
    13 PRESSURE REDUCE          102500.0000 PA
    14 3-HOUR PRESSURE             100.0000 PA
    15 CHARACTERISTIC               MISSING CODE TABLE 10063
    16 WIND DIRECTION              300.0000 DEGREE TRUE
    17 WIND SPEED AT 1               8.5000 M/S
    18 DRY-BULB TEMPER              -5.0000 C
    19 DEW-POINT TEMPE              -7.0000 C
    20 RELATIVE HUMIDI              70.0000 %
    21 HORIZONTAL VISI            1000.0000 M
    22 PRESENT WEATHER              MISSING CODE TABLE 20003
    23 PAST WEATHER (1              MISSING CODE TABLE 20004
    24 PAST WEATHER (2              MISSING CODE TABLE 20005
    25 CLOUD COVER (TO              MISSING %
    26 VERTICAL SIGNIF              MISSING CODE TABLE 8002
    27 CLOUD AMOUNT                 MISSING CODE TABLE 20011
    28 HEIGHT OF BASE               MISSING M
    29 CLOUD TYPE                   MISSING CODE TABLE 20012
    30 CLOUD TYPE                   MISSING CODE TABLE 20012
    31 CLOUD TYPE                   MISSING CODE TABLE 20012
    32 VERTICAL SIGNIF              MISSING CODE TABLE 8002
    33 CLOUD AMOUNT                 MISSING CODE TABLE 20011
    34 CLOUD TYPE                   MISSING CODE TABLE 20012
    35 HEIGHT OF BASE               MISSING M
    36 VERTICAL SIGNIF              MISSING CODE TABLE 8002
    37 CLOUD AMOUNT                 MISSING CODE TABLE 20011
    38 CLOUD TYPE                   MISSING CODE TABLE 20012
    39 HEIGHT OF BASE               MISSING M
```

```
    40 VERTICAL SIGNIF              MISSING CODE TABLE 8002
    41 CLOUD AMOUNT                 MISSING CODE TABLE 20011
    42 CLOUD TYPE                   MISSING CODE TABLE 20012
    43 HEIGHT OF BASE               MISSING M
    44 VERTICAL SIGNIF              MISSING CODE TABLE 8002
    45 CLOUD AMOUNT                 MISSING CODE TABLE 20011
    46 CLOUD TYPE                   MISSING CODE TABLE 20012
    47 HEIGHT OF BASE               MISSING M

 NUMBER OF CREX MESSAGES PROCESSED  1
 NUMBER OF CREX OBSERVATIONS        1
```

2.9.2 bufr2crex conversion

Let us have an input file called st145 containing following BUFR message

```
                   ECMWF

      BUFR DECODING SOFTWARE VERSION -  6.1
            07 JULY 2003.



 Your path for bufr tables is :
 /home/ma/emos/tables/bufr/000220/
BUFR TABLES TO BE LOADED  B0000980601,D0000980601

          BUFR SECTION 0

 LENGTH OF SECTION 0 (BYTES)            8
 TOTAL LENGTH OF BUFR MESSAGE (BYTES)  142
 BUFR EDITION NUMBER                    3

         BUFR SECTION 1

 LENGTH OF SECTION 1 (BYTES)      18
 BUFR EDITION NUMBER               3
 ORIGINATING SUB-CENTRE            0
 ORIGINATING CENTRE               98
 UPDATE SEQUENCE NUMBER            1
 FLAG (PRESENCE OF SECTION 2)      0
 BUFR MESSAGE TYPE                 4
 BUFR MESSAGE SUBTYPE              0
 VERSION NUMBER OF LOCAL TABLE     1
 YEAR                              3
 MONTH                            12
 DAY                              21
 HOUR                             21
 MINUTE                            1
 VERSION NUMBER OF MASTER TABLE    6
 BUFR MASTER TABLE                 0

 BUUKEY : KEY DEFINITION NOT KNOWN

 PRTKEY : RDB KEY NOT DEFINED IN SECTION 2.

          BUFR SECTION 3

 LENGTH OF SECTION 3 (BYTES)           64
 RESERVED                               0
 NUMBER OF DATA SUBSETS                 1
 FLAG (DATA TYPE/DATA COMPRESSION)    128


        DATA DESCRIPTORS (UNEXPANDED)

    1  001006
    2  001008
    3  002061
    4  002062
    5  002002
    6  002005
    7  002070
    8  002063
    9  002001
   10  004001
   11  004002
   12  004003
   13  004004
   14  004005
   15  005002
   16  006002
   17  008004
   18  007004
```

```
  19  008021
  20  011001
  21  011002
  22  011031
  23  011034
  24  011035
  25  012001
  26  012003
  27  013003
  28  020041

       DATA DESCRIPTORS (EXPANDED)

    1  001006  AIRCRAFT FLIGHT NUMBER
    2  001008  AIRCRAFT REGISTRATION NUMBER
    3  002061  AIRCRAFT NAVIGATIONAL SYSTEM
    4  002062  TYPE OF AIRCRAFT DATA RELAY SYSTEM
    5  002002  TYPE OF INSTRUMENTATION FOR WIND MEASUREMENT
    6  002005  PRECISION OF TEMPERATURE OBSERVATION
    7  002070  ORIGINAL SPECIFICATION OF LATITUDE/LONGITUDE
    8  002063  AIRCRAFT ROLL ANGLE
    9  002001  TYPE OF STATION
   10  004001  YEAR
   11  004002  MONTH
   12  004003  DAY
   13  004004  HOUR
   14  004005  MINUTE
   15  005002  LATITUDE (COARSE ACCURACY)
   16  006002  LONGITUDE (COARSE ACCURACY)
   17  008004  PHASE OF AIRCRAFT FLIGHT
   18  007004  PRESSURE
   19  008021  TIME SIGNIFICANCE
   20  011001  WIND DIRECTION
   21  011002  WIND SPEED
   22  011031  DEGREE OF TURBULENCE
   23  011034  VERTICAL GUST VELOCITY
   24  011035  VERTICAL GUST ACCELERATION
   25  012001  TEMPERATURE/DRY BULB TEMPERATURE
   26  012003  DEW POINT TEMPERATURE
   27  013003  RELATIVE HUMIDITY
   28  020041  AIRFRAME ICING

 STARTING SUBSET TO BE PRINTED : 1
 ENDING SUBSET TO BE PRINTED :  1

    1 AIRCRAFT FLIGHT      .1008000000E+04 CCITTIA5                 MDRDBY3Q
    2 AIRCRAFT REGIST      .2008000000E+04 CCITTIA5                 JEWEITRA
    3 AIRCRAFT NAVIGA              MISSING CODE TABLE   2061
    4 TYPE OF AIRCRAF      .3000000000E+01 CODE TABLE   2062
    5 TYPE OF INSTRUM      .4000000000E+01 FLAG TABLE   2002
    6 PRECISION OF TE      .2500000000E+00 K
    7 ORIGINAL SPECIF      .1000000000E+02 CODE TABLE   2070
    8 AIRCRAFT ROLL A              MISSING DEGREE
    9 TYPE OF STATION      .0000000000E+00 CODE TABLE   2001
   10 YEAR                 .2003000000E+04 YEAR
   11 MONTH                .1200000000E+02 MONTH
   12 DAY                  .2100000000E+02 DAY
   13 HOUR                 .2100000000E+02 HOUR
   14 MINUTE               .1000000000E+01 MINUTE
   15 LATITUDE (COARS      .3400000000E+02 DEGREE
   16 LONGITUDE (COAR     -.8501000000E+02 DEGREE
   17 PHASE OF AIRCRA              MISSING CODE TABLE   8004
   18 PRESSURE             .6318000000E+05 PA
   19 TIME SIGNIFICAN              MISSING CODE TABLE   8021
   20 WIND DIRECTION       .2960000000E+03 DEGREE TRUE
   21 WIND SPEED           .9300000000E+01 M/S
   22 DEGREE OF TURBU              MISSING CODE TABLE  11031
   23 VERTICAL GUST V              MISSING M/S
   24 VERTICAL GUST A              MISSING M/S**2
   25 TEMPERATURE/DRY      .2697000000E+03 K
   26 DEW POINT TEMPE              MISSING K
   27 RELATIVE HUMIDI              MISSING %
   28 AIRFRAME ICING               MISSING CODE TABLE  20041
 NUMBER OF SUBSETS      1
 NUMBER OF MESSAGES     1
```

Run **bufr2crex -i st145 -o st145.crex**

The output file st145.crex will contain the following CREX message:

```
CREX++

T000103 A004 B01006 B01008 B02061 B02062 B02002 B02005

 B02070 B02063 B02001 B04001 B04002 B04003 B04004 B04005 B05002
```

```
 B06002 B08004 B07004 B08021 B11001 B11002 B11031 B11034 B11035

 B12001 B12003 B13003 B20041++

 MDRDBY3Q  JEWEITRA  / 03 04 025 10 ///// 0 2003 12 21 21 01 3400

 -08501 / 06318 // 296 0093 // //// ///// -035 /// /// //++

7777
```

Run **bufr2crex -i crex_edition2.crex.bufr -o crex_edition2.crex.bufr.crex**

The output file crex_edition2.crex.bufr.crex will contain the following CREX message

```
CREX++^M
T0002031200 Y20031202 H1200 A000001 P00098000 U00 S001 D07005^M
++^M
 13 274 0 2003 12 02 12 00 4520000 02050000 00170 10200 10250^M
 0010 // 300 0085 -050 -070 070 0100 /// // // /// // // ////^M
 // // // // // // //// // // // //// // // // //// // // // ////^M
++^M
7777^M
```

2.9.3 crex2bufr conversion

Let us have an input file called st145.crex containing following CREX message

```
CREX++

T000103 A004 B01006 B01008 B02061 B02062 B02002 B02005

 B02070 B02063 B02001 B04001 B04002 B04003 B04004 B04005 B05002

 B06002 B08004 B07004 B08021 B11001 B11002 B11031 B11034 B11035

 B12001 B12003 B13003 B20041++

 MDRDBY3Q  JEWEITRA  / 03 04 025 10 ///// 0 2003 12 21 21 01 3400

 -08501 / 06318 // 296 0093 // //// ///// -035 /// /// //++

7777
```

Run **crex2bufr -i st145.crex -o st145.bufr**

After decoding st145.bufr the content of the expanded st145.bufr message is:

```
                   ECMWF

      BUFR DECODING SOFTWARE VERSION -  6.1
            07 JULy 2003.



 Your path for bufr tables is :
 /home/ma/emos/tables/bufr/000220/
BUFR TABLES TO BE LOADED  B0000980601,D0000980601

          BUFR SECTION 0

 LENGTH OF SECTION 0 (BYTES)            8
 TOTAL LENGTH OF BUFR MESSAGE (BYTES)  142
 BUFR EDITION NUMBER                    3

         BUFR SECTION 1

 LENGTH OF SECTION 1 (BYTES)      18
 BUFR EDITION NUMBER               3
 ORIGINATING SUB-CENTRE            0
 ORIGINATING CENTRE               98
```

```
UPDATE SEQUENCE NUMBER           1
FLAG (PRESENCE OF SECTION 2)     0
BUFR MESSAGE TYPE                4
BUFR MESSAGE SUBTYPE             0
VERSION NUMBER OF LOCAL TABLE    1
YEAR                             3
MONTH                           12
DAY                             21
HOUR                            21
MINUTE                           1
VERSION NUMBER OF MASTER TABLE   6
BUFR MASTER TABLE                0

BUUKEY : KEY DEFINITION NOT KNOWN

PRTKEY : RDB KEY NOT DEFINED IN SECTION 2.

         BUFR SECTION 3

LENGTH OF SECTION 3 (BYTES)           64
RESERVED                               0
NUMBER OF DATA SUBSETS                 1
FLAG (DATA TYPE/DATA COMPRESSION)    128


       DATA DESCRIPTORS (UNEXPANDED)

    1  001006
    2  001008
    3  002061
    4  002062
    5  002002
    6  002005
    7  002070
    8  002063
    9  002001
   10  004001
   11  004002
   12  004003
   13  004004
   14  004005
   15  005002
   16  006002
   17  008004
   18  007004
   19  008021
   20  011001
   21  011002
   22  011031
   23  011034
   24  011035
   25  012001
   26  012003
   27  013003
   28  020041

       DATA DESCRIPTORS (EXPANDED)

     1  001006  AIRCRAFT FLIGHT NUMBER
     2  001008  AIRCRAFT REGISTRATION NUMBER
     3  002061  AIRCRAFT NAVIGATIONAL SYSTEM
     4  002062  TYPE OF AIRCRAFT DATA RELAY SYSTEM
     5  002002  TYPE OF INSTRUMENTATION FOR WIND MEASUREMENT
     6  002005  PRECISION OF TEMPERATURE OBSERVATION
     7  002070  ORIGINAL SPECIFICATION OF LATITUDE/LONGITUDE
     8  002063  AIRCRAFT ROLL ANGLE
     9  002001  TYPE OF STATION
    10  004001  YEAR
    11  004002  MONTH
    12  004003  DAY
    13  004004  HOUR
    14  004005  MINUTE
    15  005002  LATITUDE (COARSE ACCURACY)
    16  006002  LONGITUDE (COARSE ACCURACY)
    17  008004  PHASE OF AIRCRAFT FLIGHT
    18  007004  PRESSURE
    19  008021  TIME SIGNIFICANCE
    20  011001  WIND DIRECTION
    21  011002  WIND SPEED
    22  011031  DEGREE OF TURBULENCE
    23  011034  VERTICAL GUST VELOCITY
    24  011035  VERTICAL GUST ACCELERATION
    25  012001  TEMPERATURE/DRY BULB TEMPERATURE
    26  012003  DEW POINT TEMPERATURE
    27  013003  RELATIVE HUMIDITY
    28  020041  AIRFRAME ICING
STARTING SUBSET TO BE PRINTED : 1
ENDING SUBSET TO BE PRINTED :  1

    1 AIRCRAFT FLIGHT      .1008000000E+04 CCITTIA5                MDRDBY3Q
    2 AIRCRAFT REGIST      .2008000000E+04 CCITTIA5                JEWEITRA
```

```
     3 AIRCRAFT NAVIGA              MISSING CODE TABLE   2061
     4 TYPE OF AIRCRAF      .3000000000E+01 CODE TABLE   2062
     5 TYPE OF INSTRUM      .4000000000E+01 FLAG TABLE   2002
     6 PRECISION OF TE      .2500000000E+00 K
     7 ORIGINAL SPECIF      .1000000000E+02 CODE TABLE   2070
     8 AIRCRAFT ROLL A              MISSING DEGREE
     9 TYPE OF STATION      .0000000000E+00 CODE TABLE   2001
    10 YEAR                 .2003000000E+04 YEAR
    11 MONTH                .1200000000E+02 MONTH
    12 DAY                  .2100000000E+02 DAY
    13 HOUR                 .2100000000E+02 HOUR
    14 MINUTE               .1000000000E+01 MINUTE
    15 LATITUDE (COARS      .3400000000E+02 DEGREE
    16 LONGITUDE (COAR     -.8501000000E+02 DEGREE
    17 PHASE OF AIRCRA              MISSING CODE TABLE   8004
    18 PRESSURE             .6318000000E+05 PA
    19 TIME SIGNIFICAN              MISSING CODE TABLE   8021
    20 WIND DIRECTION       .2960000000E+03 DEGREE TRUE
    21 WIND SPEED           .9300000000E+01 M/S
    22 DEGREE OF TURBU              MISSING CODE TABLE  11031
    23 VERTICAL GUST V              MISSING M/S
    24 VERTICAL GUST A              MISSING M/S**2
    25 TEMPERATURE/DRY      .2697000000E+03 K
    26 DEW POINT TEMPE              MISSING K
    27 RELATIVE HUMIDI              MISSING %
    28 AIRFRAME ICING               MISSING CODE TABLE  20041
 NUMBER OF SUBSETS      1
 NUMBER OF MESSAGES     1
```

Lets have input CREX Edition 2 message crex_edition2.crex:

```
CREX++
T0002031200 Y20031202 H1200 A000001 P00098000 U00 S001 D07005
++
 13 274 0 2003 12 02 12 00 4520000 02050000 00170 10200 10250
 0010 // 300 0085 -050 -070 070 0100 /// // // /// // // ////
 // // // // // // //// // // // //// // // // //// // // // ////
++
7777
```

Run **crex2bufr -i message crex_edition2.crex -o message crex_edition2.crex.bufr**

After decoding message crex_edition2.crex.bufr the content of the expanded message crex_edition2.crex.bufr message is:

```
                   ECMWF

      BUFR DECODING SOFTWARE VERSION -  7.0
            07 January 2005.



 Your path for bufr tables is :
 /hda1/data/bigtmp/wmo_bufr_crex_000250/bufr_000260/bufrtables/
BUFR TABLES TO BE LOADED  B000000000981200,D000000000981200

          BUFR SECTION 0

 LENGTH OF SECTION 0 (BYTES)                  8
 TOTAL LENGTH OF BUFR MESSAGE (BYTES)        98
 BUFR EDITION NUMBER                          4

         BUFR SECTION 1

 LENGTH OF SECTION 1 (BYTES)          22
 BUFR MASTER TABLE                     0
 ORIGINATING CENTRE                   98
 ORIGINATING SUB-CENTRE                0
 UPDATE SEQUENCE NUMBER                0
 FLAG (PRESENCE OF SECTION 2)          0
 DATA CATEGORY                         0
 DATA SUB-CATEGORY                     1
 LOCAL DATA SUB-CATEGORU               1
 VERSION NUMBER OF MASTER TABLE       12
 VERSION NUMBER OF LOCAL TABLE         0
 YEAR                               2003
 MONTH                                12
 DAY                                   2
 HOUR                                 12
 MINUTE                                0
 SECOND                                0
```

```
BUUKEY : KEY DEFINITION NOT KNOWN

PRTKEY : RDB KEY NOT DEFINED IN SECTION 2.

         BUFR SECTION 3

LENGTH OF SECTION 3 (BYTES)           10
RESERVED                               0
NUMBER OF DATA SUBSETS                 1
FLAG (DATA TYPE/DATA COMPRESSION)    128


       DATA DESCRIPTORS (UNEXPANDED)

   1  307005


       DATA DESCRIPTORS (EXPANDED)

    1  001001  WMO BLOCK NUMBER
    2  001002  WMO STATION NUMBER
    3  002001  TYPE OF STATION
    4  004001  YEAR
    5  004002  MONTH
    6  004003  DAY
    7  004004  HOUR
    8  004005  MINUTE
    9  005001  LATITUDE (HIGH ACCURACY)
   10  006001  LONGITUDE (HIGH ACCURACY)
   11  007001  HEIGHT OF STATION
   12  010004  PRESSURE
   13  010051  PRESSURE REDUCED TO MEAN SEA LEVEL
   14  010061  3 HOUR PRESSURE CHANGE
   15  010063  CHARACTERISTIC OF PRESSURE TENDENCY
   16  011011  WIND DIRECTION AT 10 M
   17  011012  WIND SPEED AT 10 M
   18  012004  DRY BULB TEMPERATURE AT 2M
   19  012006  DEW POINT TEMPERATURE AT 2M
   20  013003  RELATIVE HUMIDITY
   21  020001  HORIZONTAL VISIBILITY
   22  020003  PRESENT WEATHER
   23  020004  PAST WEATHER (1)
   24  020005  PAST WEATHER (2)
   25  020010  CLOUD COVER (TOTAL)
   26  008002  VERTICAL SIGNIFICANCE (SURFACE OBSERVATIONS)
   27  020011  CLOUD AMOUNT
   28  020013  HEIGHT OF BASE OF CLOUD
   29  020012  CLOUD TYPE
   30  020012  CLOUD TYPE
   31  020012  CLOUD TYPE
   32  008002  VERTICAL SIGNIFICANCE (SURFACE OBSERVATIONS)
   33  020011  CLOUD AMOUNT
   34  020012  CLOUD TYPE
   35  020013  HEIGHT OF BASE OF CLOUD
   36  008002  VERTICAL SIGNIFICANCE (SURFACE OBSERVATIONS)
   37  020011  CLOUD AMOUNT
   38  020012  CLOUD TYPE
   39  020013  HEIGHT OF BASE OF CLOUD
   40  008002  VERTICAL SIGNIFICANCE (SURFACE OBSERVATIONS)
   41  020011  CLOUD AMOUNT
   42  020012  CLOUD TYPE
   43  020013  HEIGHT OF BASE OF CLOUD
   44  008002  VERTICAL SIGNIFICANCE (SURFACE OBSERVATIONS)
   45  020011  CLOUD AMOUNT
   46  020012  CLOUD TYPE
   47  020013  HEIGHT OF BASE OF CLOUD
STARTING SUBSET TO BE PRINTED :  ENDING SUBSET TO BE PRINTED :
    1 WMO BLOCK NUMBE     0.1300000000E+02 NUMERIC
    2 WMO STATION NUM     0.2740000000E+03 NUMERIC
    3 TYPE OF STATION     0.0000000000E+00 CODE TABLE 002001
    4 YEAR                0.2003000000E+04 YEAR
    5 MONTH               0.1200000000E+02 MONTH
    6 DAY                 0.2000000000E+01 DAY
    7 HOUR                0.1200000000E+02 HOUR
    8 MINUTE              0.0000000000E+00 MINUTE
    9 LATITUDE (HIGH      0.4520000000E+02 DEGREE
   10 LONGITUDE (HIGH     0.2050000000E+02 DEGREE
   11 HEIGHT OF STATI     0.1700000000E+03 M
   12 PRESSURE            0.1020000000E+06 PA
   13 PRESSURE REDUCE     0.1025000000E+06 PA
   14 3 HOUR PRESSURE     0.1000000000E+03 PA
   15 CHARACTERISTIC               MISSING CODE TABLE 010063
   16 WIND DIRECTION      0.3000000000E+03 DEGREE TRUE
   17 WIND SPEED AT 1     0.8500000000E+01 M/S
   18 DRY BULB TEMPER     0.2682000000E+03 K
   19 DEW POINT TEMPE     0.2662000000E+03 K
   20 RELATIVE HUMIDI     0.7000000000E+02 %
   21 HORIZONTAL VISI     0.1000000000E+04 M
   22 PRESENT WEATHER              MISSING CODE TABLE 020003
   23 PAST WEATHER (1              MISSING CODE TABLE 020004
   24 PAST WEATHER (2              MISSING CODE TABLE 020005
```

```
   25 CLOUD COVER (TO              MISSING %
   26 VERTICAL SIGNIF              MISSING CODE TABLE 008002
   27 CLOUD AMOUNT                 MISSING CODE TABLE 020011
   28 HEIGHT OF BASE               MISSING M
   29 CLOUD TYPE                   MISSING CODE TABLE 020012
   30 CLOUD TYPE                   MISSING CODE TABLE 020012
   31 CLOUD TYPE                   MISSING CODE TABLE 020012
   32 VERTICAL SIGNIF              MISSING CODE TABLE 008002
   33 CLOUD AMOUNT                 MISSING CODE TABLE 020011
   34 CLOUD TYPE                   MISSING CODE TABLE 020012
   35 HEIGHT OF BASE               MISSING M
   36 VERTICAL SIGNIF              MISSING CODE TABLE 008002
   37 CLOUD AMOUNT                 MISSING CODE TABLE 020011
   38 CLOUD TYPE                   MISSING CODE TABLE 020012
   39 HEIGHT OF BASE               MISSING M
   40 VERTICAL SIGNIF              MISSING CODE TABLE 008002
   41 CLOUD AMOUNT                 MISSING CODE TABLE 020011
   42 CLOUD TYPE                   MISSING CODE TABLE 020012
   43 HEIGHT OF BASE               MISSING M
   44 VERTICAL SIGNIF              MISSING CODE TABLE 008002
   45 CLOUD AMOUNT                 MISSING CODE TABLE 020011
   46 CLOUD TYPE                   MISSING CODE TABLE 020012
   47 HEIGHT OF BASE               MISSING M
NUMBER OF SUBSETS      1
NUMBER OF MESSAGES     1
```

3 CREX Reference Manual

3.1 CREX tables

3.1.1 CREX Table B

CREX Table B - B000103 valid since 2003/11/01

B00001	TABLE A: ENTRY	CHARACTER	0	3
B00002	TABLE A: DATA CATEGORY DESCRIPTION, LINE 1	CHARACTER	0	32
B00003	TABLE A: DATA CATEGORY DESCRIPTION, LINE 2	CHARACTER	0	32
B00005	BUFR/CREX EDITION NUMBER	CHARACTER	0	3
B00010	F DESCRIPTOR TO BE ADDED OR DEFINED	CHARACTER	0	1
B00011	X DESCRIPTOR TO BE ADDED OR DEFINED	CHARACTER	0	2
B00012	Y DESCRIPTOR TO BE ADDED OR DEFINED	CHARACTER	0	3
B00013	ELEMENT NAME, LINE 1	CHARACTER	0	32
B00014	ELEMENT NAME, LINE 2	CHARACTER	0	32
B00015	UNITS NAME	CHARACTER	0	24
B00016	UNITS SCALE SIGN	CHARACTER	0	1
B00017	UNITS SCALE	CHARACTER	0	3
B00018	UNITS REFERENCE SIGN	CHARACTER	0	1
B00019	UNITS REFERENCE VALUE	CHARACTER	0	10
B00020	ELEMENT DATA WIDTH	CHARACTER	0	3
B00030	DESCRIPTOR DEFINING SEQUENCE	CHARACTER	0	6
B01001	WMO BLOCK NUMBER	NUMERIC	0	2
B01002	WMO STATION NUMBER	NUMERIC	0	3
B01003	WMO REGION NUMBER/GEOGRAPHICAL AREA	CODE TABLE 1003	0	1
B01004	WMO REGION SUB-AREA (SEE NOTE 9)	NUMERIC	0	1
B01005	BUOY/PLATFORM IDENTIFIER	NUMERIC	0	5
B01006	AIRCRAFT FLIGHT NUMBER	CHARACTER	0	8
B01007	SATELLITE IDENTIFIER	CODE TABLE 1007	0	4
B01008	AIRCRAFT REGISTRATION NUMBER OR OTHER IDENTIFICATION	CHARACTER	0	8
B01009	TYPE OF COMMERCIAL AIRCRAFT	CHARACTER	0	8
B01010	STATIONARY BUOY PLATFORM IDENTIFIER; E.G. C-MAN BUOYS	CHARACTER	0	8
B01011	SHIP OR MOBILE LAND STATION IDENTIFIER	CHARACTER	0	9
B01012	DIRECTION OF MOTION OF MOVING OBSERVING PLATFORM**	DEGREE TRUE	0	3
B01013	SPEED OF MOTION OF MOVING OBSERVING PLATFORM*	M/S	0	3
B01014	PLATFORM DRIFT SPEED (HIGH PRECISION)	M/S	2	4
B01015	STATION OR SITE NAME	CHARACTER	0	20
B01018	SHORT STATION OR SITE NAME	CHARACTER	0	5
B01019	LONG STATION OR SITE NAME	CHARACTER	0	32
B01020	WMO REGION SUB-AREA	NUMERIC	0	2
B01021	SYNOPTIC FEATURE IDENTIFIER	NUMERIC	0	4
B01022	NAME OF FEATURE (SEE NOTE 11)	CHARACTER	0	28
B01023	OBSERVATION SEQUENCE NUMBER	NUMERIC	0	3
B01025	STORM IDENTIFIER	CHARACTER	0	3
B01026	WMO STORM NAME	CHARACTER	0	8
B01027	WMO LONG STORM NAME	CHARACTER	0	10
B01031	IDENTIFICATION OF ORIGINATING/GENERATING CENTRE (SEE NOTE 10)	CODE TABLE 1031	0	5
B01032	GENERATING APPLICATION	CODE TABLE 1032	0	3
B01033	IDENTIFICATION OF ORIGINATING/GENERATING CENTRE	CODE TABLE 1033	0	3
B01034	IDENTIFICATION OF ORIGINATING/GENERATING SUB-CENTRE	CODE TABLE 1034	0	3
B01035	ORIGINATING CENTRE	CODE TABLE 1035	0	5
B01036	AGENCY IN CHARGE OF OPERATING THE OBSERVING PLATFORM	CODE TABLE 1036	0	7
B01041	ABSOLUTE PLATFORM VELOCITY - FIRST COMPONENT (SEE NOTE 6)	M/S	5	10
B01042	ABSOLUTE PLATFORM VELOCITY - SECOND COMPONENT (SEE NOTE 6)	M/S	5	10
B01043	ABSOLUTE PLATFORM VELOCITY - THIRD COMPONENT (SEE NOTE 6)	M/S	5	10
B01050	PLATFORM TRANSMITTER ID NUMBER	NUMERIC	0	6
B01051	PLATFORM TRANSMITTER ID NUMBER	CHARACTER	0	12
B01060	AIRCRAFT REPORTING POINT (BEACON IDENTIFIER)	CHARACTER	0	8
B01062	SHORT ICAO LOCATION INDICATOR	CHARACTER	0	4
B01063	ICAO LOCATION INDICATOR	CHARACTER	0	8
B01064	RUNWAY DESIGNATOR	CHARACTER	0	4
B01075	TIDE STATION IDENTIFICATION	CHARACTER	0	5
B01080	SHIP LINE NUMBER ACCORDING TO SOOP	CHARACTER	0	4
B01081	RADIOSONDE SERIAL NUMBER	CHARACTER	0	20
B01082	RADIOSONDE ASCENSION NUMBER (SEE NOTE 12)	NUMERIC	0	4
B01083	RADIOSONDE RELEASE NUMBER (SEE NOTE 12)	NUMERIC	0	1
B01085	OBSERVING PLATFORM MANUFACTURER’S MODEL	CHARACTER	0	20
B01086	OBSERVING PLATFORM MANUFACTURER’S SERIAL NUMBER	CHARACTER	0	32
B01090	TECHNIQUE FOR MAKING UP INITIAL PERTURBATIONS	CODE TABLE 1090	0	3
B01091	ENSEMBLE MEMBER NUMBER	NUMERIC	0	4
B01092	TYPE OF ENSEMBLE FORECAST	CODE TABLE 1092	0	3
B01093	BALLOON LOT NUMBER	CHARACTER	0	12
B01094	WBAN NUMBER	NUMERIC	0	5
B01095	OBSERVER IDENTIFICATION	CHARACTER	0	4
B02001	TYPE OF STATION	CODE TABLE 2001	0	1
B02002	TYPE OF INSTRUMENTATION FOR WIND MEASUREMENT	FLAG TABLE 2002	0	2
B02003	TYPE OF MEASURING EQUIPMENT USED	CODE TABLE 2003	0	2
B02004	TYPE OF INSTRUMENTATION FOR EVAPORATION MEASUREMENT OR TYPE OF C	CODE TABLE 2004	0	2
B02005	PRECISION OF TEMPERATURE OBSERVATION	K	2	3
B02011	RADIOSONDE TYPE	CODE TABLE 2011	0	3
B02012	RADIOSONDE COMPUTATIONAL METHOD	CODE TABLE 2012	0	2
B02013	SOLAR AND INFRARED RADIATION CORRECTION	CODE TABLE 2013	0	2

Descriptor	Name	Unit	Scale	Width
B02014	TRACKING TECHNIQUE/STATUS OF SYSTEM USED	CODE TABLE 2014	0	3
B02015	RADIOSONDE COMPLETENESS	CODE TABLE 2015	0	2
B02016	RADIOSONDE CONFIGURATION	FLAG TABLE 2016	0	2
B02019	SATELLITE INSTRUMENTS	CODE TABLE 2019	0	4
B02020	SATELLITE CLASSIFICATION	CODE TABLE 2020	0	3
B02021	SATELLITE INSTRUMENT DATA USED IN PROCESSING	FLAG TABLE 2021	0	3
B02022	SATELLITE DATA-PROCESSING TECHNIQUE USED	FLAG TABLE 2022	0	3
B02023	SATELLITE DERIVED WIND COMPUTATION METHOD	CODE TABLE 2023	0	2
B02024	INTEGRATED MEAN HUMIDITY COMPUTATIONAL METHOD	CODE TABLE 2024	0	2
B02025	SATELLITE CHANNEL(S) USED IN COMPUTATION	FLAG TABLE 2025	0	9
B02026	CROSS TRACK RESOLUTION	M	2	4
B02027	ALONG TRACK RESOLUTION	M	2	4
B02028	SEGMENT SIZE AT NADIR IN X DIRECTION	M	0	6
B02029	SEGMENT SIZE AT NADIR IN Y DIRECTION	M	0	6
B02030	METHOD OF CURRENT MEASUREMENT	CODE TABLE 2030	0	1
B02031	DURATION AND TIME OF CURRENT MEASUREMENT	CODE TABLE 2031	0	2
B02032	INDICATOR FOR DIGITIZATION	CODE TABLE 2032	0	1
B02033	METHOD OF SALINITY/DEPTH MEASUREMENT	CODE TABLE 2033	0	1
B02034	DROGUE TYPE	CODE TABLE 2034	0	2
B02035	CABLE LENGTH	M	0	3
B02036	BUOY TYPE	CODE TABLE 2036	0	1
B02037	METHOD OF TIDAL OBSERVATION	CODE TABLE 2037	0	1
B02038	METHOD OF WATER TEMPERATURE AND/OR SALINITY MEASUREMENT	CODE TABLE 2038	0	2
B02039	METHOD OF WET-BULB TEMPERATURE MEASUREMENT	CODE TABLE 2039	0	1
B02040	METHOD OF REMOVING VELOCITY AND MOTION OF PLATFORM FROM CURRENT	CODE TABLE 2040	0	2
B02041	METHOD FOR ESTIMATING REPORTS RELATED TO SYNOPTIC FEATURES	CODE TABLE 2041	0	2
B02044	INDICATOR FOR METHOD OF CALCULATING SPECTRAL WAVE DATA	CODE TABLE 2044	0	2
B02045	INDICATOR FOR TYPE OF PLATFORM	CODE TABLE 2045	0	2
B02046	WAVE MEASUREMENT INSTRUMENTATION	CODE TABLE 2046	0	2
B02048	SATELLITE SENSOR INDICATOR	CODE TABLE 2048	0	2
B02049	GEOSTATIONARY SATELLITE DATA-PROCESSING TECHNIQUE USED	FLAG TABLE 2049	0	3
B02050	GEOSTATIONARY SOUNDER SATELLITE CHANNELS USED	FLAG TABLE 2050	0	7
B02051	INDICATOR TO SPECIFY OBSERVING METHOD FOR EXTREME TEMPERATURES	CODE TABLE 2051	0	2
B02052	GEOSTATIONARY IMAGER SATELLITE CHANNELS USED	FLAG TABLE 2052	0	2
B02053	GOES-I/M BRIGHTNESS TEMPERATURE CHARACTERISTICS	CODE TABLE 2053	0	2
B02054	GOES-I/M SOUNDINGS PARAMETER CHARACTERISTICS	CODE TABLE 2054	0	2
B02055	GEOSTATIONARY SOUNDINGS STATISTICAL PARAMETERS	CODE TABLE 2055	0	2
B02056	GEOSTATIONARY SOUNDINGS ACCURACY STATISTICS	CODE TABLE 2056	0	2
B02057	ORIGIN OF FIRST GUESS INFORMATION FOR GOES-I/M SOUNDINGS	CODE TABLE 2057	0	2
B02058	VALID TIMES OF FIRST GUESS INFORMATION FOR GOES-I/M SOUNDINGS	CODE TABLE 2058	0	2
B02059	ORIGIN OF ANALYSIS INFORMATION FOR GOES-I/M SOUNDINGS	CODE TABLE 2059	0	2
B02060	ORIGIN OF SURFACE INFORMATION FOR GOES-I/M SOUNDINGS	CODE TABLE 2060	0	2
B02061	AIRCRAFT NAVIGATIONAL SYSTEM	CODE TABLE 2061	0	1
B02062	TYPE OF AIRCRAFT DATA RELAY SYSTEM	CODE TABLE 2062	0	2
B02063	AIRCRAFT ROLL ANGLE	DEGREE	2	5
B02064	AIRCRAFT ROLL ANGLE QUALITY	CODE TABLE 2064	0	1
B02065	ACARS GROUND RECEIVING STATION	CHARACTER	0	5
B02066	RADIOSONDE GROUND RECEIVING SYSTEM	CODE TABLE 2066	0	2
B02067	RADIOSONDE OPERATING FREQUENCY	Hz	-5	5
B02070	ORIGINAL SPECIFICATION OF LATITUDE/LONGITUDE	CODE TABLE 2070	0	2
B02080	BALLOON MANUFACTURER	CODE TABLE 2080	0	2
B02081	TYPE OF BALLOON	CODE TABLE 2081	0	2
B02082	WEIGHT OF BALLOON	KG	3	4
B02083	TYPE OF BALLOON SHELTER	CODE TABLE 2083	0	2
B02084	TYPE OF GAS USED IN BALLOON	CODE TABLE 2084	0	2
B02085	AMOUNT OF GAS USED IN BALLOON	KG	3	4
B02086	BALLOON FLIGHT TRAIN LENGTH	M	1	4
B02091	ENTRY SENSOR 4/20 MA	A	4	3
B02095	TYPE OF PRESSURE SENSOR	CODE TABLE 2095	0	2
B02096	TYPE OF TEMPERATURE SENSOR	CODE TABLE 2096	0	2
B02097	TYPE OF HUMIDITY SENSOR	CODE TABLE 2097	0	2
B02100	RADAR CONSTANT	dB	1	4
B02101	TYPE OF ANTENNA	CODE TABLE 2101	0	2
B02102	ANTENNA HEIGHT ABOVE TOWER BASE	M	0	3
B02103	RADOME	FLAG TABLE 2103	0	1
B02104	ANTENNA POLARISATION	CODE TABLE 2104	0	2
B02105	MAXIMUM ANTENNA GAIN	dB	0	2
B02106	3-DB BEAMWIDTH	DEGREE	1	2
B02107	SIDELOBE SUPPRESSION	dB	0	2
B02108	CROSSPOL DISCRIMINATION (ON AXIS)	dB	0	2
B02109	ANTENNA SPEED (AZIMUTH)	DEGREE/S	2	4
B02110	ANTENNA SPEED (ELEVATION)	DEGREE/S	2	4
B02111	RADAR INCIDENCE ANGLE	DEGREE	1	4
B02112	RADAR LOOK ANGLE	DEGREE	1	4
B02113	NUMBER OF AZIMUTH LOOKS	NUMERIC	0	2
B02114	ANTENNA EFFECTIVE SURFACE AREA	M**2	0	5
B02115	TYPE OF SURFACE OBSERVING EQUIPMENT	CODE TABLE 2115	0	2
B02121	MEAN FREQUENCY	Hz	-8	3
B02122	FREQUENCY AGILITY RANGE	Hz	-6	3
B02123	PEAK POWER	W	-4	3
B02124	AVERAGE POWER	W	-1	3
B02125	PULSE REPETITION FREQUENCY	Hz	-1	3
B02126	PULSE WIDTH	S	7	2
B02127	RECEIVER INTERMEDIATE FREQUENCY	Hz	-6	3
B02128	INTERMEDIATE FREQUENCY BANDWIDTH	Hz	-5	2
B02129	MINIMUM DETECTABLE SIGNAL	dB	0	3
B02130	DYNAMIC RANGE	dB	0	3
B02131	SENSITIVITY TIME CONTROL (STC)	FLAG TABLE 2131	0	1
B02132	AZIMUTH POINTING ACCURACY	DEGREE	2	2
B02133	ELEVATION POINTING ACCURACY	DEGREE	2	2
B02134	ANTENNA BEAM AZIMUTH	DEGREE	2	5
B02135	ANTENNA ELEVATION	DEGREE	2	5
B02136	RANGE PROCESSED BY RANGE ATTENUATION CORRECTION	M	-3	5

B02140 SATELLITE RADAR BEAM AZIMUTH ANGLE	DEGREE	0	3
B02141 MEASUREMENT TYPE	CHARACTER	0	3
B02142 OZONE INSTRUMENT SERIAL NUMBER/ IDENTIFICATION	CHARACTER	0	4
B02143 OZONE INSTRUMENT TYPE	CODE TABLE 2143	0	3
B02144 LIGHT SOURCE TYPE FOR BREWER SPECTRO PHOTOMETER	CODE TABLE 2144	0	2
B02145 WAVE LENGTH SETTING FOR DOBSON INSTRUMENTS	CODE TABLE 2145	0	2
B02146 SOURCE CONDITIONS FOR DOBSON INSTRUMENTS	CODE TABLE 2146	0	2
B02148 DATA COLLECTION AND/OR LOCATION SYSTEM	CODE TABLE 2148	0	2
B02149 TYPE OF DATA BUOY	CODE TABLE 2149	0	2
B02150 TOVS/ATOVS/AVHRR INSTRUMENTATION CHANNEL NUMBER	CODE TABLE 2150	0	2
B02151 RADIOMETER IDENTIFIER	CODE TABLE 2151	0	4
B02152 SATELLITE INSTRUMENT USED IN DATA PROCESSING(6)	FLAG TABLE 2152	0	10
B02153 SATELLITE CHANNEL CENTRE FREQUENCY	Hz	-8	8
B02154 SATELLITE CHANNEL BAND WIDTH	Hz	-8	8
B02163 HEIGHT ASSIGNMENT METHOD	CODE TABLE 2163	0	2
B02164 TRACER CORRELATION METHOD	CODE TABLE 2164	0	1
B02166 RADIANCE TYPE	CODE TABLE 2166	0	2
B02167 RADIANCE COMPUTATIONAL METHOD	CODE TABLE 2167	0	2
B02168 HYDROSTATIC PRESSURE OF LOWER END OF CABLE (THERMISTOR STRING)	KPA	0	5
B02169 ANEMOMETER TYPE	CODE TABLE 2169	0	2
B02172 PRODUCT TYPE FOR RETRIEVED ATMOSPHERIC GASES	CODE TABLE 2172	0	3
B02173 SQUARE OF THE OFF NADIR ANGLE (7)	DEGREE2	4	4
B02175 METHOD OF PRECIPITATION MEASUREMENT	CODE TABLE 2175	0	2
B02176 METHOD OF STATE OF GROUND MEASUREMENT	CODE TABLE 2176	0	2
B02177 METHOD OF SNOW DEPTH MEASUREMENT	CODE TABLE 2177	0	2
B02178 METHOD OF LIQUID CONTENT MEASUREMENT OF PRECIPITATION	CODE TABLE 2178	0	2
B02179 TYPE OF SKY CONDITION ALGORITHM	CODE TABLE 2179	0	2
B02180 MAIN PRESENT WEATHER DETECTING SYSTEM	CODE TABLE 2180	0	2
B02181 SUPPLEMENTARY PRESENT WEATHER SENSOR	FLAG TABLE 2181	0	7
B02182 VISIBILITY MEASUREMENT SYSTEM	CODE TABLE 2182	0	2
B02183 CLOUD DETECTION SYSTEM	CODE TABLE 2183	0	2
B02184 TYPE OF LIGHTNING DETECTION SENSOR	CODE TABLE 2184	0	2
B02185 METHOD OF EVAPORATION MEASUREMENT	CODE TABLE 2185	0	2
B02186 CAPABILITY TO DETECT PRECIPITATION PHENOMENA	FLAG TABLE 2186	0	10
B02187 CAPABILITY TO DETECT OTHER WEATHER PHENOMENA	FLAG TABLE 2187	0	6
B02188 CAPABILITY TO DETECT OBSCURATION	FLAG TABLE 2188	0	7
B02189 CAPABILITY TO DISCRIMINATE LIGHTNING STRIKES	FLAG TABLE 2189	0	4
B02190 LAGRANGIAN DRIFTER SUBMERGENCE (% TIME SUBMERGED)	%	0	3
B04001 YEAR	YEAR	0	4
B04002 MONTH	MONTH	0	2
B04003 DAY	DAY	0	2
B04004 HOUR	HOUR	0	2
B04005 MINUTE	MINUTE	0	2
B04006 SECOND	SECOND	0	2
B04007 SECONDS WITHIN A MINUTE (MICROSECOND ACCURACY)	SECOND	6	8
B04011 TIME INCREMENT	YEAR	0	4
B04012 TIME INCREMENT	MONTH	0	4
B04013 TIME INCREMENT	DAY	0	4
B04014 TIME INCREMENT	HOUR	0	4
B04015 TIME INCREMENT	MINUTE	0	4
B04016 TIME INCREMENT	SECOND	0	4
B04017 REFERENCE TIME PERIOD FOR ACCUMULATED OR EXTREME DATA	MINUTE	0	4
B04021 TIME PERIOD OR DISPLACEMENT	YEAR	0	4
B04022 TIME PERIOD OR DISPLACEMENT	MONTH	0	4
B04023 TIME PERIOD OR DISPLACEMENT	DAY	0	4
B04024 TIME PERIOD OR DISPLACEMENT	HOUR	0	4
B04025 TIME PERIOD OR DISPLACEMENT	MINUTE	0	4
B04026 TIME PERIOD OR DISPLACEMENT	SECOND	0	4
B04031 DURATION OF TIME RELATING TO FOLLOWING VALUE	HOUR	0	3
B04032 DURATION OF TIME RELATING TO FOLLOWING VALUE	MINUTE	0	2
B04041 TIME DIFFERENCE, UTC -LMT (SEE NOTE 6)	MINUTE	0	4
B04043 DAY OF THE YEAR	DAY	0	3
B04051 PRINCIPAL TIME OF DAILY READING OF MAXIMUM TEMPERATURE	HOUR	0	2
B04052 PRINCIPAL TIME OF DAILY READING OF MINIMUM TEMPERATURE	HOUR	0	2
B04053 NUMBER OF DAYS WITH PRECIPITATION EQUAL TO OR MORE THAN 1 MM	NUMERIC	0	2
B04059 TIMES OF OBSERVATION USED TO COMPUTE THE REPORTED MEAN VALUES	FLAG TABLE 4059	0	2
B04065 SHORT TIME INCREMENT	MINUTE	0	2
B04073 SHORT TIME PERIOD OR DISPLACEMENT	DAY	0	2
B04074 SHORT TIME PERIOD OR DISPLACEMENT	HOUR	0	2
B04075 SHORT TIME PERIOD OR DISPLACEMENT	MINUTE	0	2
B05001 LATITUDE (HIGH ACCURACY)	DEGREE	5	7
B05002 LATITUDE (COARSE ACCURACY)	DEGREE	2	4
B05011 LATITUDE INCREMENT (HIGH ACCURACY)	DEGREE	5	7
B05012 LATITUDE INCREMENT (COARSE ACCURACY)	DEGREE	2	4
B05021 BEARING OR AZIMUTH	DEGREE TRUE	2	5
B05022 SOLAR AZIMUTH	DEGREE TRUE	2	5
B05030 DIRECTION (SPECTRAL)	DEGREE	0	4
B05031 ROW NUMBER	NUMERIC	0	4
B05033 PIXEL SIZE ON HORIZONTAL - 1	M	-1	5
B05034 ALONG TRACK ROW NUMBER	NUMERIC	0	4
B05036 SHIP TRANSECT NUMBER ACCORDING TO SOOP	NUMERIC	0	2
B05040 ORBIT NUMBER	NUMERIC	0	8
B05041 SCAN LINE NUMBER	NUMERIC	0	3
B05042 CHANNEL NUMBER	NUMERIC	0	2
B05043 FIELD OF VIEW NUMBER	NUMERIC	0	3
B05044 SATELLITE CYCLE NUMBER	NUMERIC	0	4
B05052 CHANNEL NUMBER INCREMENT	NUMERIC	0	2
B05053 FIELD OF VIEW NUMBER INCREMENT	NUMERIC	0	2
B06001 LONGITUDE (HIGH ACCURACY)	DEGREE	5	8
B06002 LONGITUDE (COARSE ACCURACY)	DEGREE	2	5
B06011 LONGITUDE INCREMENT (HIGH ACCURACY)	DEGREE	5	8
B06012 LONGITUDE INCREMENT (COARSE ACCURACY)	DEGREE	2	5
B06021 DISTANCE	M	-1	4

B06030 WAVE NUMBER (SPECTRAL)	RAD/M	5	4
B06031 COLUMN NUMBER	NUMERIC	0	4
B06033 PIXEL SIZE ON HORIZONTAL - 2	M	-1	5
B06034 CROSS-TRACK CELL NUMBER	NUMERIC	0	3
B06040 RADIUS OF CONFIDENCE	M	0	4
B07001 HEIGHT OF STATION (SEE NOTE 1)	M	0	5
B07002 HEIGHT OR ALTITUDE	M	-1	5
B07003 GEOPOTENTIAL	M**2/S**2	-1	6
B07004 PRESSURE	PA	-1	5
B07005 HEIGHT INCREMENT	M	0	4
B07006 HEIGHT ABOVE STATION	M	0	5
B07007 HEIGHT	M	0	6
B07008 GEOPOTENTIAL	M**2/S**2	0	7
B07009 GEOPOTENTIAL HEIGHT	GPM	0	5
B07010 FLIGHT LEVEL	FT	-1	5
B07021 ELEVATION (SEE NOTE 2)	DEGREE	2	5
B07022 SOLAR ELEVATION	DEGREE	2	5
B07024 SATELLITE ZENITH ANGLE	DEGREE	2	5
B07025 SOLAR ZENITH ANGLE	DEGREE	2	5
B07030 HEIGHT OF STATION GROUND ABOVE MEAN SEA LEVEL (SEE NOTE 3)	M	1	5
B07031 HEIGHT OF BAROMETER ABOVE MEAN SEA LEVEL (SEE NOTE 4)	M	1	5
B07032 HEIGHT OF SENSOR ABOVE LOCAL GROUND (OR DECK OF MARINE PLATFORM)	M	2	5
B07033 HEIGHT OF SENSOR ABOVE WATER SURFACE (SEE NOTE 6)	M	1	4
B07061 DEPTH BELOW LAND SURFACE	M	2	5
B07062 DEPTH BELOW SEA/WATER SURFACE	M	1	6
B07064 HEIGHT ABOVE STATION (SENSOR HEIGHT ARTIFICIALLY CORRECTED) (SEE	M	0	2
B07070 DROGUE DEPTH	M	0	4
B08001 VERTICAL SOUNDING SIGNIFICANCE	FLAG TABLE 8001	0	3
B08002 VERTICAL SIGNIFICANCE (SURFACE OBSERVATIONS)	CODE TABLE 8002	0	2
B08003 VERTICAL SIGNIFICANCE (SATELLITE OBSERVATIONS)	CODE TABLE 8003	0	2
B08004 PHASE OF AIRCRAFT FLIGHT	CODE TABLE 8004	0	1
B08005 METEOROLOGICAL ATTRIBUTE SIGNIFICANCE	CODE TABLE 8005	0	2
B08006 OZONE VERTICAL SOUNDING SIGNIFICANCE	FLAG TABLE 8006	0	3
B08007 DIMENSIONAL SIGNIFICANCE	CODE TABLE 8007	0	2
B08008 RADIATION VERTICAL SOUNDING SIGNIFICANCE	FLAG TABLE 8008	0	3
B08009 DETAILED PHASE OF FLIGHT	CODE TABLE 8009	0	2
B08010 SURFACE QUALIFIER (TEMPERATURE DATA)	CODE TABLE 8010	0	2
B08011 METEOROLOGICAL FEATURE	CODE TABLE 8011	0	2
B08012 LAND/SEA QUALIFIER	CODE TABLE 8012	0	1
B08013 DAY/NIGHT QUALIFIER	CODE TABLE 8013	0	1
B08014 QUALIFIER FOR RUNWAY VISUAL RANGE	CODE TABLE 8014	0	2
B08016 CHANGE QUALIFIER OF A TREND-TYPE FORECAST OR AN AERODROME FORECA	CODE TABLE 8016	0	1
B08017 QUALIFIER OF THE TIME WHEN THE FORECAST CHANGE IS EXPECTED	CODE TABLE 8017	0	1
B08018 SEAWINDS LAND/ICE SURFACE TYPE	FLAG TABLE 8018	0	6
B08020 TOTAL NUMBER OF MISSING ENTITIES (WITH RESPECT TO ACCUMULATION O	NUMERIC	0	5
B08021 TIME SIGNIFICANCE	CODE TABLE 8021	0	2
B08022 TOTAL NUMBER (WITH RESPECT TO ACCUMULATION OR AVERAGE)	NUMERIC	0	5
B08023 FIRST ORDER STATISTICS	CODE TABLE 8023	0	2
B08024 DIFFERENCE STATISTICS	CODE TABLE 8024	0	2
B08025 TIME DIFFERENCE QUALIFIER	CODE TABLE 8025	0	2
B08030 MANUAL ON CODES (VOLUME I.1, SECTION C) CODE TABLE FROM WHICH DA	NUMERIC	0	4
B08031 DATA CATEGORY CREX TABLE A	NUMERIC	0	3
B08033 METHOD OF DERIVATION OF PERCENTAGE CONFIDENCE	CODE TABLE 8033	0	3
B08035 TYPE OF MONITORING EXERCISE	CODE TABLE 8035	0	1
B08036 TYPE OF CENTRE OR STATION PERFORMING MONITORING	CODE TABLE 8036	0	1
B08040 FLIGHT LEVEL SIGNIFICANCE	CODE TABLE 8040	0	2
B08041 DATA SIGNIFICANCE	CODE TABLE 8041	0	2
B08050 QUALIFIER FOR NUMBER OF MISSING VALUES IN CALCULATION OF STATIST	CODE TABLE 8050	0	2
B08051 QUALIFIER FOR NUMBER OF MISSING VALUES IN CALCULATION OF STATIST	CODE TABLE 8051	0	1
B08052 CONDITION FOR WHICH NUMBER OF DAYS OF OCCURRENCE FOLLOWS	CODE TABLE 8052	0	2
B08053 DAY OF OCCURRENCE QUALIFIER	CODE TABLE 8053	0	1
B08060 SAMPLE SCANNING MODE SIGNIFICANCE	CODE TABLE 8060	0	2
B08070 TOVS/ATOVS PRODUCT QUALIFIER	CODE TABLE 8070	0	2
B08072 PIXEL(S) TYPE	CODE TABLE 8072	0	1
B08074 ALTIMETER ECHO TYPE	CODE TABLE 8074	0	1
B08075 ASCENDING/DESCENDING ORBIT QUALIFIER	CODE TABLE 8075	0	1
B08076 TYPE OF BAND	CODE TABLE 8076	0	2
B10001 HEIGHT OF LAND SURFACE	M	0	5
B10002 HEIGHT	M	-1	5
B10003 GEOPOTENTIAL	M**2/S**2	-1	6
B10004 PRESSURE	PA	-1	5
B10007 HEIGHT	M	0	6
B10008 GEOPOTENTIAL	M**2/S**2	0	7
B10009 GEOPOTENTIAL HEIGHT	GPM	0	5
B10010 MINIMUM PRESSURE REDUCED TO MEAN SEA LEVEL	PA	-1	5
B10011 MAXIMUM PRESSURE REDUCED TO MEAN SEA LEVEL	PA	-1	5
B10031 IN DIRECTION OF THE NORTH POLE, DISTANCE FROM THE EARTH’S CENTRE	M	2	10
B10040 NUMBER OF RETRIEVED LAYERS	NUMERIC	0	4
B10050 STANDARD DEVIATION ALTITUDE	M	2	5
B10051 PRESSURE REDUCED TO MEAN SEA LEVEL	PA	-1	5
B10052 ALTIMETER SETTING (QNH)	PA	-1	5
B10060 PRESSURE CHANGE	PA	-1	4
B10061 3-HOUR PRESSURE CHANGE	PA	-1	4
B10062 24-HOUR PRESSURE CHANGE	PA	-1	4
B10063 CHARACTERISTIC OF PRESSURE TENDENCY	CODE TABLE 10063	0	2
B10070 INDICATED AIRCRAFT ALTITUDE	M	0	5
B10197 ANEMOMETER HEIGHT	M	0	3
B11001 WIND DIRECTION	DEGREE TRUE	0	3
B11002 WIND SPEED	M/S	1	4
B11003 U-COMPONENT	M/S	1	4
B11004 V-COMPONENT	M/S	1	4
B11005 W-COMPONENT	PA/S	1	4
B11006 W-COMPONENT	M/S	2	4

B11010 WIND DIRECTION ASSOCIATED WITH WIND SPEED WHICH FOLLOWS	DEGREE TRUE	0	3
B11011 WIND DIRECTION AT 10 M	DEGREE TRUE	0	3
B11012 WIND SPEED AT 10 M	M/S	1	4
B11013 WIND DIRECTION AT 5 M	DEGREE TRUE	0	3
B11014 WIND SPEED AT 5 M	M/S	1	4
B11016 EXTREME COUNTERCLOCKWISE WIND DIRECTION OF A VARIABLE WIND	DEGREE TRUE	0	3
B11017 EXTREME CLOCKWISE WIND DIRECTION OF A VARIABLE WIND	DEGREE TRUE	0	3
B11019 STEADINESS OF WIND (6)	%	0	3
B11021 RELATIVE VORTICITY	1/S	9	6
B11022 DIVERGENCE	1/S	9	6
B11023 VELOCITY POTENTIAL	M**2/S	-2	6
B11031 DEGREE OF TURBULENCE	CODE TABLE 11031	0	2
B11032 HEIGHT OF BASE OF TURBULENCE	M	-1	5
B11033 HEIGHT OF TOP OF TURBULENCE	M	-1	5
B11034 VERTICAL GUST VELOCITY	M/S	1	4
B11035 VERTICAL GUST ACCELERATION	M/S**2	2	5
B11036 MAXIMUM DERIVED EQUIVALENT VERTICAL GUST SPEED	M/S	1	4
B11037 TURBULENCE INDEX	CODE TABLE 11037	0	2
B11038 TIME OF OCCURRENCE OF PEAK EDDY DISSIPATION RATE	CODE TABLE 11038	0	2
B11039 EXTENDED TIME OF OCCURRENCE OF PEAK EDDY DISSIPATION RATE	CODE TABLE 11039	0	2
B11040 MAXIMUM WIND SPEED (MEAN WIND)	M/S	1	4
B11041 MAXIMUM WIND GUST SPEED	M/S	1	4
B11042 MAXIMUM WIND SPEED (10-MIN MEAN WIND)	M/S	1	4
B11043 MAXIMUM WIND GUST DIRECTION	DEGREE TRUE	0	3
B11044 MEAN WIND DIRECTION FOR SURFACE - 1500 M (5000 FEET)	DEGREE TRUE	0	3
B11045 MEAN WIND SPEED FOR SURFACE - 1500 M (5000 FEET)	M/S	1	4
B11046 MAXIMUM INSTANTANEOUS WIND SPEED	M/S	1	4
B11047 MAXIMUM INSTANTANEOUS WIND SPEED OVER 10 MINUTES	M/S	1	4
B11049 STANDARD DEVIATION OF WIND DIRECTION	DEGREE TRUE	0	3
B11050 STANDARD DEVIATION OF HORIZONTAL WIND SPEED	M/S	1	4
B11051 STANDARD DEVIATION OF VERTICAL WIND SPEED	M/S	1	3
B11052 FORMAL UNCERTAINTY IN WIND SPEED	M/S	2	5
B11053 FORMAL UNCERTAINTY IN WIND DIRECTION	DEGREE TRUE	2	5
B11061 ABSOLUTE WIND SHEAR IN 1 KM LAYER BELOW	M/S	1	4
B11062 ABSOLUTE WIND SHEAR IN 1 KM LAYER ABOVE	M/S	1	4
B11070 DESIGNATOR OF THE RUNWAY AFFECTED BY WIND SHEAR (INCLUDING ALL)	CHARACTER	0	4
B11071 TURBULENT VERTICAL MOMENTUM FLUX	M**2/S**2	3	5
B11072 TURBULENT VERTICAL BUOYANCY FLUX	KM/S	3	4
B11073 TURBULENT KINETIC ENERGY	M**2/S**2	2	4
B11074 DISSIPATION ENERGY	M**2/S**2	2	4
B11075 MEAN TURBULENCE INTENSITY (EDDY DISSIPATION RATE)	M**(2/3)/S	2	3
B11076 PEAK TURBULENCE INTENSITY (EDDY DISSIPATION RATE)	M**(2/3)/S	2	3
B11077 REPORTING INTERVAL OR AVERAGING TIME FOR EDDY DISSIPATION RATE	S	0	4
B11081 MODEL WIND DIRECTION AT 10M	DEGREE TRUE	2	5
B11082 MODEL WIND SPEED AT 10M	M/S	2	4
B12001 TEMPERATURE/DRY-BULB TEMPERATURE	C	1	3
B12002 WET-BULB TEMPERATURE	C	1	3
B12003 DEW-POINT TEMPERATURE	C	1	3
B12004 DRY-BULB TEMPERATURE AT 2 M	C	1	3
B12005 WET-BULB TEMPERATURE AT 2 M	C	1	3
B12006 DEW-POINT TEMPERATURE AT 2 M	C	1	3
B12007 VIRTUAL TEMPERATURE	C	1	3
B12011 MAXIMUM TEMPERATURE, AT HEIGHT AND OVER PERIOD SPECIFIED	C	1	3
B12012 MINIMUM TEMPERATURE, AT HEIGHT AND OVER PERIOD SPECIFIED	C	1	3
B12013 GROUND MINIMUM TEMPERATURE, PAST 12 HOURS	C	1	3
B12014 MAXIMUM TEMPERATURE AT 2 M, PAST 12 HOURS	C	1	3
B12015 MINIMUM TEMPERATURE AT 2 M, PAST 12 HOURS	C	1	3
B12016 MAXIMUM TEMPERATURE AT 2 M, PAST 24 HOURS	C	1	3
B12017 MINIMUM TEMPERATURE AT 2 M, PAST 24 HOURS	C	1	3
B12021 MAXIMUM TEMPERATURE AT 2M	C	2	4
B12022 MINIMUM TEMPERATURE AT 2M	C	2	4
B12030 SOIL TEMPERATURE	C	1	3
B12051 STANDARD DEVIATION TEMPERATURE	C	1	3
B12052 HIGHEST DAILY MEAN TEMPERATURE	C	1	3
B12053 LOWEST DAILY MEAN TEMPERATURE	C	1	3
B12061 SKIN TEMPERATURE	C	1	3
B12062 EQUIVALENT BLACK BODY TEMPERATURE	C	1	3
B12063 BRIGHTNESS TEMPERATURE	C	1	3
B12064 INSTRUMENT TEMPERATURE	K	1	4
B12065 STANDARD DEVIATION BRIGHTNESS TEMPERATURE	K	1	4
B12070 WARM LOAD TEMPERATURE	K	2	5
B12071 COLDEST CLUSTER TEMPERATURE	K	1	4
B12072 RADIANCE	WM**(-2)SR**(-1)	6	9
B12075 SPECTRAL RADIANCE	WM**(-3)SR**(-1)	-3	5
B12076 RADIANCE	WM**(-2)SR**(-1)	3	5
B12101 TEMPERATURE/DRY-BULB TEMPERATURE	C	2	4
B12102 WET-BULB TEMPERATURE	C	2	4
B12103 DEW-POINT TEMPERATURE	C	2	4
B12104 DRY-BULB TEMPERATURE AT 2M	C	2	4
B12105 WEB-BULB TEMPERATURE AT 2M	C	2	4
B12106 DEW-POINT TEMPERATURE AT 2M	C	2	4
B12107 VIRTUAL TEMPERATURE	C	2	4
B12111 MAXIMUM TEMPERATURE, AT HEIGHT AND OVER PERIOD SPECIFIED	C	2	4
B12112 MINIMUM TEMPERATURE, AT HEIGHT AND OVER PERIOD SPECIFIED	C	2	4
B12113 GROUND MINIMUM TEMPERATURE, PAST 12 HOURS	C	2	4
B12114 MAXIMUM TEMPERATURE AT 2M, PAST 12 HOURS	C	2	4
B12115 MINIMUM TEMPERATURE AT 2M, PAST 12 HOURS	C	2	4
B12116 MAXIMUM TEMPERATURE AT 2M, PAST 24 HOURS	C	2	4
B12117 MINIMUM TEMPERATURE AT 2M, PAST 24 HOURS	C	2	4
B12118 MAXIMUM TEMPERATURE AT HEIGHT SPECIFIED, PAST 24 HOURS	C	2	4
B12119 MINIMUM TEMPERATURE AT HEIGHT SPECIFIED, PAST 24 HOURS	C	2	4
B12130 SOIL TEMPERATURE	C	2	4
B12151 STANDARD DEVIATION OF DAILY MEAN TEMPERATURE	C	2	4

B12152 HIGHEST DAILY MEAN TEMPERATURE	C	2	4
B12153 LOWEST DAILY MEAN TEMPERATURE	C	2	4
B12161 SKIN TEMPERATURE	C	2	4
B12162 EQUIVALENT BLACK BODY TEMPERATURE	C	2	4
B12163 BRIGHTNESS TEMPERATURE	C	2	4
B12164 INSTRUMENT TEMPERATURE	K	2	5
B12171 COLDEST CLUSTER TEMPERATURE	K	2	5
B13001 SPECIFIC HUMIDITY	KG/KG	5	5
B13002 MIXING RATIO	KG/KG	5	5
B13003 RELATIVE HUMIDITY	%	0	3
B13004 VAPOUR PRESSURE	PA	-1	4
B13005 VAPOUR DENSITY	KG/M**3	3	3
B13006 MIXING HEIGHTS	M	-1	5
B13007 MINIMUM RELATIVE HUMIDITY	%	0	3
B13008 MAXIMUM RELATIVE HUMIDITY	%	0	3
B13009 RELATIVE HUMIDITY	%	1	4
B13011 TOTAL PRECIPITATION/TOTAL WATER EQUIVALENT	KG/M**2	1	5
B13012 DEPTH OF FRESH SNOW	M	2	4
B13013 TOTAL SNOW DEPTH	M	2	5
B13014 RAINFALL/WATER EQUIVALENT OF SNOW (AVERAGED RATE)	KG/(M**2)S	4	4
B13015 SNOWFALL (AVERAGED RATE)	M/S	7	4
B13016 PRECIPITABLE WATER	KG/M**2	0	3
B13019 TOTAL PRECIPITATION PAST 1 HOUR	KG/M**2	1	4
B13020 TOTAL PRECIPITATION PAST 3 HOURS	KG/M**2	1	5
B13021 TOTAL PRECIPITATION PAST 6 HOURS	KG/M**2	1	5
B13022 TOTAL PRECIPITATION PAST 12 HOURS	KG/M**2	1	5
B13023 TOTAL PRECIPITATION PAST 24 HOURS	KG/M**2	1	5
B13031 EVAPOTRANSPIRATION	KG/M**2	0	3
B13032 EVAPORATION/EVAPOTRANSPIRATION	KG/M**2	1	3
B13033 EVAPORATION/EVAPOTRANSPIRATION	KG/M**2	1	4
B13038 SUPERADIABATIC INDICATOR	CODE TABLE 13038	0	1
B13039 TERRAIN TYPE (ICE/SNOW)	CODE TABLE 13039	0	1
B13040 SURFACE FLAG	CODE TABLE 13040	0	2
B13041 PASQUILL-GIFFORD STABILITY CATEGORY	CODE TABLE 13041	0	2
B13042 PARCEL LIFTED INDEX (TO 500 HPA)	K	0	2
B13043 BEST LIFTED INDEX (TO 500 HPA)	K	0	2
B13051 FREQUENCY GROUP, PRECIPITATION	CODE TABLE 13051	0	2
B13052 HIGHEST DAILY AMOUNT OF PRECIPITATION	KG/M**2	1	5
B13055 INTENSITY OF PRECIPITATION	MM H-1	1	4
B13058 SIZE OF PRECIPITATING ELEMENT	MM	1	3
B13059 NUMBER OF FLASHES (THUNDERSTORM)	NUMERIC	0	3
B13060 TOTAL ACCUMULATED PRECIPITATION	KG/M**2	1	5
B13071 UPSTREAM WATER LEVEL	M	2	4
B13072 DOWNSTREAM WATER LEVEL	M	2	4
B13073 MAXIMUM WATER LEVEL	M	2	4
B13080 WATER PH	pH	1	3
B13081 WATER CONDUCTIVITY	SIEMENS/M	3	4
B13082 WATER TEMPERATURE	K	1	4
B13083 DISSOLVED OXYGEN	KG/M**3	6	5
B13084 TURBIDITY	LUMEN	0	4
B13085 OXYDATION REDUCTION POTENTIAL (ORP)	V	3	4
B13090 RADIOMETER WATER VAPOUR CONTENT	KGM-2	1	4
B13091 RADIOMETER LIQUID CONTENT	KGM-2	2	3
B14001 LONG-WAVE RADIATION, INTEGRATED OVER 24 HOURS	J/M**2	-3	4
B14002 LONG-WAVE RADIATION, INTEGRATED OVER PERIOD SPECIFIED	J/M**2	-3	4
B14003 SHORT-WAVE RADIATION, INTEGRATED OVER 24 HOURS	J/M**2	-3	4
B14004 SHORT-WAVE RADIATION, INTEGRATED OVER PERIOD SPECIFIED	J/M**2	-3	4
B14011 NET LONG-WAVE RADIATION, INTEGRATED OVER 24 HOURS	J/M**2	-3	4
B14012 NET LONG-WAVE RADIATION, INTEGRATED OVER PERIOD SPECIFIED	J/M**2	-3	4
B14013 NET SHORT-WAVE RADIATION, INTEGRATED OVER 24 HOURS	J/M**2	-3	4
B14014 NET SHORT-WAVE RADIATION, INTEGRATED OVER PERIOD SPECIFIED	J/M**2	-3	4
B14015 NET RADIATION, INTEGRATED OVER 24 HOURS	J/M**2	-4	5
B14016 NET RADIATION, INTEGRATED OVER PERIOD SPECIFIED	J/M**2	-4	5
B14017 INSTANTANEOUS LONG-WAVE RADIATION	W/M**2	-3	4
B14018 INSTANTANEOUS SHORT-WAVE RADIATION	W/M**2	-3	4
B14019 SURFACE ALBEDO	%	0	3
B14020 GLOBAL SOLAR RADIATION, INTEGRATED OVER 24 HOURS	J/M**2	-4	5
B14021 GLOBAL SOLAR RADIATION, INTEGRATED OVER PERIOD SPECIFIED	J/M**2	-4	5
B14022 DIFFUSE SOLAR RADIATION, INTEGRATED OVER 24 HOURS	J/M**2	-4	5
B14023 DIFFUSE SOLAR RADIATION, INTEGRATED OVER PERIOD SPECIFIED	J/M**2	-4	5
B14024 DIRECT SOLAR RADIATION, INTEGRATED OVER 24 HOURS	J/M**2	-4	5
B14025 DIRECT SOLAR RADIATION, INTEGRATED OVER PERIOD SPECIFIED	J/M**2	-4	5
B14026 ALBEDO AT THE TOP OF CLOUDS	%	0	3
B14027 ALBEDO	%	0	3
B14028 GLOBAL SOLAR RADIATION (HIGH ACCURACY), INTEGRATED OVER PERIOD S	J/M**2	-2	5
B14029 DIFFUSE SOLAR RADIATION (HIGH ACCURACY), INTEGRATED OVER PERIOD	J/M**2	-2	5
B14030 DIRECT SOLAR RADIATION (HIGH ACCURACY), INTEGRATED OVER PERIOD S	J/M**2	-2	5
B14031 TOTAL SUNSHINE	MINUTE	0	4
B14032 TOTAL SUNSHINE	HOUR	0	4
B14033 TOTAL SUNSHINE	%	0	3
B14034 SUNSHINE OVER PERIOD SPECIFIED	MINUTE	0	4
B14042 BI-DIRECTIONAL REFLECTANCE	%	0	3
B14045 CHANNEL RADIANCE	WM-2SR-1CM-1	0	4
B14050 EMISSIVITY (SEE NOTE 5)	%	1	4
B14051 DIRECT SOLAR RADIATION INTEGRATED OVER LAST HOUR	JM-2	-3	4
B15001 TOTAL OZONE	DU	0	4
B15002 AIR MASS (SLANT PATH AT 22 KM)	NUMERIC	2	3
B15003 MEASURED OZONE PARTIAL PRESSURE (SOUNDING)	NBAR	0	3
B15004 OZONE SOUNDING CORRECTION FACTOR	NUMERIC	3	4
B15005 OZONE P	DU	0	3
B15011 LOG 10 OF INTEGRATED ELECTRON DENSITY	LOG (M-2)	3	4
B15015 MAXIMUM IMAGE SPECTRAL COMPONENT BEFORE NORMALIZATION	NUMERIC	0	10
B15020 INTEGRATED B3 DENSITY	KG/M**2	8	7

B15031 ATMOSPHERIC PATH DELAY IN SATELLITE SIGNAL	M	4	5
B15032 ESTIMATED ERROR IN ATMOSPHERIC PATH DELAY	M	4	4
B15033 DIFFERENCE IN PATH DELAYS FOR LIMB VIEWS AT EXTREMES OF SCAN	M	5	5
B15034 ESTIMATED ERROR IN PATH DELAY DIFFERENCE	M	5	5
B15035 COMPONENT OF ZENITH PATH DELAY DUE TO WATER VAPOUR	M	4	5
B19001 TYPE OF SYNOPTIC FEATURE	CODE TABLE 19001	0	2
B19002 EFFECTIVE RADIUS OF FEATURE	M	-2	4
B19003 WIND SPEED THRESHOLD	M/S	0	3
B19004 EFFECTIVE RADIUS WITH RESPECT TO WIND SPEEDS ABOVE THRESHOLD	M	-2	4
B19005 DIRECTION OF MOTION OF FEATURE	DEGREE TRUE	0	3
B19006 SPEED OF MOTION OF FEATURE	M/S	2	5
B19007 EFFECTIVE RADIUS OF FEATURE	M	-3	4
B19008 VERTICAL EXTENT OF CIRCULATION	CODE TABLE 19008	0	1
B19009 EFFECTIVE RADIUS WITH RESPECT TO WIND SPEEDS ABOVE THRESHOLD (LA	M	-3	4
B19010 METHOD FOR TRACKING THE CENTRE OF SYNOPTIC FEATURE	CODE TABLE 19010	0	2
B20001 HORIZONTAL VISIBILITY	M	-1	4
B20002 VERTICAL VISIBILITY	M	-1	3
B20003 PRESENT WEATHER (SEE NOTE 1)	CODE TABLE 20003	0	3
B20004 PAST WEATHER (1) (SEE NOTE 2)	CODE TABLE 20004	0	2
B20005 PAST WEATHER (2) (SEE NOTE 2)	CODE TABLE 20005	0	2
B20008 CLOUD DISTRIBUTION FOR AVIATION	CODE TABLE 20008	0	2
B20009 GENERAL WEATHER INDICATOR (TAF/METAR)	CODE TABLE 20009	0	2
B20010 CLOUD COVER (TOTAL)	%	0	3
B20011 CLOUD AMOUNT	CODE TABLE 20011	0	2
B20012 CLOUD TYPE	CODE TABLE 20012	0	2
B20013 HEIGHT OF BASE OF CLOUD	M	-1	4
B20014 HEIGHT OF TOP OF CLOUD	M	-1	4
B20015 PRESSURE AT BASE OF CLOUD	PA	-1	5
B20016 PRESSURE AT TOP OF CLOUD	PA	-1	5
B20017 CLOUD TOP DESCRIPTION	CODE TABLE 20017	0	2
B20018 TENDENCY OF RUNWAY VISUAL RANGE	CODE TABLE 20018	0	1
B20019 SIGNIFICANT PRESENT OR FORECAST WEATHER	CHARACTER	0	9
B20020 SIGNIFICANT RECENT WEATHER PHENOMENA	CHARACTER	0	4
B20021 TYPE OF PRECIPITATION	FLAG TABLE 20021	0	10
B20022 CHARACTER OF PRECIPITATION	CODE TABLE 20022	0	2
B20023 OTHER WEATHER PHENOMENA	FLAG TABLE 20023	0	6
B20024 INTENSITY OF PHENOMENA	CODE TABLE 20024	0	1
B20025 OBSCURATION	FLAG TABLE 20025	0	7
B20026 CHARACTER OF OBSCURATION	CODE TABLE 20026	0	2
B20027 PHENOMENA OCCURRENCE	FLAG TABLE 20027	0	3
B20029 RAIN FLAG	CODE TABLE 20029	0	1
B20031 ICE DEPOSIT (THICKNESS)	M	2	3
B20032 RATE OF ICE ACCRETION	CODE TABLE 20032	0	1
B20033 CAUSE OF ICE ACCRETION	FLAG TABLE 20033	0	2
B20034 SEA ICE CONCENTRATION	CODE TABLE 20034	0	2
B20035 AMOUNT AND TYPE OF ICE	CODE TABLE 20035	0	2
B20036 ICE SITUATION	CODE TABLE 20036	0	2
B20037 ICE DEVELOPMENT	CODE TABLE 20037	0	2
B20038 BEARING OF ICE EDGE (SEE NOTE 3)	DEGREE TRUE	0	3
B20039 ICE DISTANCE	M	-1	4
B20041 AIRFRAME ICING	CODE TABLE 20041	0	2
B20042 AIRFRAME ICING PRESENT	CODE TABLE 20042	0	1
B20043 PEAK LIQUID WATER CONTENT	KG/M**3	4	2
B20044 AVERAGE LIQUID WATER CONTENT	KG/M**3	4	2
B20045 SUPERCOOLED LARGE DROPLET (SLD) CONDITIONS	CODE TABLE 20045	0	1
B20051 AMOUNT OF LOW CLOUDS	%	0	3
B20052 AMOUNT OF MIDDLE CLOUDS	%	0	3
B20053 AMOUNT OF HIGH CLOUDS	%	0	3
B20061 RUNWAY VISUAL RANGE (RVR)	M	0	4
B20062 STATE OF THE GROUND (WITH OR WITHOUT SNOW)	CODE TABLE 20062	0	2
B20063 SPECIAL PHENOMENA	CODE TABLE 20063	0	4
B20065 SNOW COVER (SEE NOTE 4)	%	0	3
B20070 MINIMUM NUMBER OF ATMOSPHERICS	NUMERIC	0	3
B20071 ACCURACY OF FIX AND RATE OF ATMOSPHERICS	CODE TABLE 20071	0	2
B20081 CLOUD AMOUNT IN SEGMENT	%	0	3
B20082 AMOUNT SEGMENT CLOUD FREE	%	0	3
B20090 SPECIAL CLOUDS	CODE TABLE 20090	0	2
B21001 HORIZONTAL REFLECTIVITY	dB	0	3
B21002 VERTICAL REFLECTIVITY	dB	0	3
B21003 DIFFERENTIAL REFLECTIVITY	dB	1	3
B21005 LINEAR DEPOLARISATION RATIO	dB	0	2
B21006 CIRCULAR DEPOLARISATION RATIO	dB	0	2
B21011 DOPPLER MEAN VELOCITY IN X-DIRECTION	M/S	0	3
B21012 DOPPLER MEAN VELOCITY IN Y-DIRECTION	M/S	0	3
B21013 DOPPLER MEAN VELOCITY IN Z-DIRECTION	M/S	0	3
B21014 DOPPLER MEAN VELOCITY (RADIAL)	M/S	1	4
B21017 DOPPLER VELOCITY SPECTRAL WIDTH	M/S	1	3
B21021 ECHO TOPS	M	-3	2
B21030 SIGNAL TO NOISE RATIO	dB	0	3
B21031 VERTICALLY INTEGRATED LIQUID-WATER CONTENT	KG/M**2	0	3
B21036 RADAR RAINFALL INTENSITY	M/S	7	4
B21041 BRIGHT-BAND HEIGHT	M	-2	3
B21051 SIGNAL POWER ABOVE 1 MW	dB	0	3
B21062 BACKSCATTER	dB	2	4
B21063 RADIOMETRIC RESOLUTION (NOISE VALUE)	%	1	4
B21064 CLUTTER NOISE ESTIMATE	NUMERIC	0	3
B21065 MISSING PACKET COUNTER	NUMERIC	0	3
B21066 WAVE SCATTEROMETER PRODUCT CONFIDENCE DATA	FLAG TABLE 21066	0	4
B21067 WIND PRODUCT CONFIDENCE DATA	FLAG TABLE 21067	0	5
B21068 RADAR ALTIMETER PRODUCT CONFIDENCE DATA	FLAG TABLE 21068	0	3
B21069 SST PRODUCT CONFIDENCE DATA	FLAG TABLE 21069	0	4
B21070 SST PRODUCT CONFIDENCE DATA (SADIST-2)	FLAG TABLE 21070	0	6
B21071 PEAKINESS	NUMERIC	0	5

B21072 SATELLITE ALTIMETER CALIBRATION STATUS	FLAG TABLE 21072	0	2
B21073 SATELLLITE ALTIMETER INSTRUMENT MODE	FLAG TABLE 21073	0	3
B21075 IMAGE SPECTRUM INTENSITY	NUMERIC	0	3
B21076 REPRESENTATION OF INTENSITIES	CODE TABLE 21076	0	1
B21077 ALTITUDE CORRECTION (IONOSPHERE)	M	3	5
B21078 ALTITUDE CORRECTION (DRY TROPOSPHERE)	M	3	3
B21079 ALTITUDE CORRECTION (WET TROPOSPHERE)	M	3	4
B21080 ALTITUDE CORRECTION (CALIBRATION CONSTANT)	M	3	4
B21081 OPEN LOOP CORRECTION (HEIGHT-TIME LOOP)	M	3	4
B21082 OPEN LOOP CORRECTION (AUTO GAIN CONTROL)	dB	3	5
B21083 WARM TARGET CALIBRATION	NUMERIC	0	5
B21084 COLD TARGET CALIBRATION	NUMERIC	0	5
B21085 ATSR SEA SURFACE TEMPERATURE ACROSS- TRACK BAND NUMBER	NUMERIC	0	2
B21091 RADAR SIGNAL DOPPLER SPECTRUM BTH MOMENT	dB	0	3
B21092 RASS SIGNAL DOPPLER SPECTRUM BTH MOMENT, REFERRING TO RASS SIGNA	dB	0	3
B21101 NUMBER OF VECTOR AMBIGUITIES	NUMERIC	0	1
B21102 INDEX OF SELECTED WIND VECTOR	NUMERIC	0	1
B21103 TOTAL NUMBER OF SIGMA-0 MEASUREMENTS	NUMERIC	0	2
B21104 LIKELIHOOD COMPUTED FOR SOLUTION	NUMERIC	3	5
B21105 NORMALIZED RADAR CROSS-SECTION	dB	2	5
B21106 KP VARIANCE COEFFICIENT (ALPHA)	NUMERIC	3	5
B21107 KP VARIANCE COEFFICIENT (BETA)	NUMERIC	8	5
B21109 SEAWINDS WIND VECTOR CELL QUALITY	FLAG TABLE 21109	0	6
B21110 NUMBER OF INNER-BEAM SIGMA-0 (FORWARD OF SATELLITE)	NUMERIC	0	2
B21111 NUMBER OF OUTER-BEAM SIGMA-0 (FORWARD OF SATELLITE)	NUMERIC	0	2
B21112 NUMBER OF INNER-BEAM SIGMA-0 (AFT OF SATELLITE)	NUMERIC	0	2
B21113 NUMBER OF OUTER-BEAM SIGMA-0 (AFT OF SATELLITE)	NUMERIC	0	2
B21114 KP VARIANCE COEFFICENT (GAMMA)	dB	3	6
B21115 SEAWINDS SIGMA-0 QUALITY	FLAG TABLE 21115	0	6
B21116 SEAWINDS SIGMA-0 MODE	FLAG TABLE 21116	0	6
B21117 SIGMA-0 VARIANCE QUALITY CONTROL	NUMERIC	2	5
B21118 ATTENUATION CORRECTION ON SIGMA-0	dB	2	5
B21119 WIND SCATTEROMETER GEOPHYSICAL MODEL FUNCTION	CODE TABLE 21119	0	2
B21120 PROBABILITY OF RAIN	NUMERIC	3	4
B21121 SEAWINDS NOF* RAIN INDEX	NUMERIC	0	3
B21122 ATTENUATION CORRECTION OF SIGMA-0 (FROM TB)	dB	2	5
B21123 SEAWINDS NORMALIZED RADAR CROSS SECTION	dB	2	5
B21128 NUMBER OF VALID POINTS PER SECOND USED TO DERIVE PREVIOUS PARAME	NUMERIC	0	3
B22001 DIRECTION OF WAVES	DEGREE TRUE	0	3
B22002 DIRECTION OF WIND WAVES	DEGREE TRUE	0	3
B22003 DIRECTION OF SWELL WAVES	DEGREE TRUE	0	3
B22004 DIRECTION OF CURRENT	DEGREE TRUE	0	3
B22011 PERIOD OF WAVES	S	0	2
B22012 PERIOD OF WIND WAVES	S	0	2
B22013 PERIOD OF SWELL WAVES	S	0	2
B22021 HEIGHT OF WAVES	M	1	4
B22022 HEIGHT OF WIND WAVES	M	1	4
B22023 HEIGHT OF SWELL WAVES	M	1	4
B22025 STANDARD DEVIATION WAVE HEIGHT	M	2	4
B22026 STANDARD DEVIATION OF SIGNIFICANT WAVE HEIGHT	M	2	4
B22031 SPEED OF CURRENT	M/S	2	4
B22035 TIDAL ELEVATION WITH RESPECT TO LOCAL CHART DATUM	M	2	4
B22036 METEOROLOGICAL RESIDUAL TIDAL ELEVATION (SURGE OR OFFSET)	M	2	4
B22037 TIDAL ELEVATION WITH RESPECT TO NATIONAL LAND DATUM	M	3	5
B22038 TIDAL ELEVATION WITH RESPECT TO LOCAL CHART DATUM	M	3	5
B22039 METEOROLOGICAL RESIDUAL TIDAL ELEVATION (SURGE OR OFFSET)	M	3	4
B22040 METEOROLOGICAL RESIDUAL TIDAL ELEVATION (SURGE OR OFFSET)	M	3	5
B22041 SEA-SURFACE TEMPERATURE (15-DAY RUNNING MEAN)	K	1	4
B22042 SEA/WATER TEMPERATURE	K	1	4
B22043 SEA/WATER TEMPERATURE	K	2	5
B22044 SOUND VELOCITY	M/S	1	5
B22045 SEA/WATER TEMPERATURE	K	3	6
B22050 STANDARD DEVIATION SEA-SURFACE TEMPERATURE	K	2	3
B22055 FLOAT CYCLE NUMBER	NUMERIC	0	3
B22056 DIRECTION OF PROFILE	CODE TABLE 22056	0	1
B22061 STATE OF THE SEA	CODE TABLE 22061	0	2
B22062 SALINITY	PART PER THOUSAND	2	5
B22063 TOTAL WATER DEPTH	M	0	5
B22064 SALINITY	PART PER THOUSAND	3	6
B22065 WATER PRESSURE	PA	-3	6
B22066 WATER CONDUCTIVITY	S M-1	6	8
B22067 INSTRUMENT TYPE FOR WATER TEMPERATURE PROFILE MEASUREMENT	CODE TABLE 22067	0	4
B22068 WATER TEMPERATURE PROFILE RECORDER TYPES	CODE TABLE 22068	0	3
B22070 SIGNIFICANT WAVE HEIGHT	M	2	4
B22071 SPECTRAL PEAK WAVE PERIOD	S	1	3
B22072 SPECTRAL PEAK WAVE LENGTH	M	0	4
B22073 MAXIMUM WAVE HEIGHT	M	2	4
B22074 AVERAGE WAVE PERIOD	S	1	3
B22075 AVERAGE WAVE LENGTH	M	0	4
B22076 DIRECTION FROM WHICH DOMINANT WAVES ARE COMING	DEGREE TRUE	0	3
B22077 DIRECTIONAL SPREAD OF DOMINANT WAVE	DEGREE	0	3
B22078 DURATION OF WAVE RECORD	S	0	4
B22079 LENGTH OF WAVE RECORD	M	0	5
B22080 WAVEBAND CENTRAL FREQUENCY	Hz	3	4
B22081 WAVEBAND CENTRAL WAVE NUMBER	1/M	5	4
B22082 MAXIMUM NON-DIRECTIONAL SPECTRAL WAVE DENSITY	M**2S	2	7
B22083 MAXIMUM NON-DIRECTIONAL SPECTRAL WAVE NUMBER	M**3	2	7
B22084 BAND CONTAINING MAXIMUM NON- DIRECTIONAL SPECTRAL WAVE DENSITY	NUMERIC	0	3
B22085 SPECTRAL WAVE DENSITY RATIO	NUMERIC	0	3
B22086 MEAN DIRECTION FROM WHICH WAVES ARE COMING	DEGREE TRUE	0	3
B22087 PRINCIPAL DIRECTION FROM WHICH WAVES ARE COMING	DEGREE TRUE	0	3
B22088 FIRST NORMALIZED POLAR COORDINATE FROM FOURIER COEFFICIENTS	NUMERIC	2	3
B22089 SECOND NORMALIZED POLAR COORDINATE FROM FOURIER COEFFICIENTS	NUMERIC	2	3

B22090 NON-DIRECTIONAL SPECTRAL ESTIMATE BY WAVE FREQUENCY	M**2S	2	7
B22091 NON-DIRECTIONAL SPECTRAL ESTIMATE BY WAVE NUMBER	M**3	2	7
B22092 DIRECTIONAL SPECTRAL ESTIMATE BY WAVE FREQUENCY	M**2S/RAD	2	7
B22093 DIRECTIONAL SPECTRAL ESTIMATE BY WAVE NUMBER	M**4	2	7
B22094 TOTAL NUMBER OF WAVE BANDS	NUMERIC	0	3
B22095 DIRECTIONAL SPREAD OF INDIVIDUAL WAVES	DEGREE	0	3
B22096 SPECTRAL BAND WIDTH	1/S	3	2
B22097 MEAN WAVELENGTH > 731 M OF IMAGE SPECTRUM AT LOW WAVE NUMBERS	M	0	5
B22098 WAVELENGTH SPREAD (WAVELENGTH > 731 M) AT LOW WAVE NUMBERS	M	0	5
B22099 MEAN DIRECTION AT LOW WAVE NUMBERS (WAVELENGTH > 731 M)	DEGREE TRUE	0	3
B22100 DIRECTION SPREAD AT LOW WAVE NUMBERS(WAVELENGTH > 731 M)	DEGREE	0	3
B22101 TOTAL ENERGY (WAVELENGTH > 731M) AT LOW WAVE NUMBERS	NUMERIC	0	10
B22120 TIDE STATION AUTOMATED WATER LEVEL CHECK	CODE TABLE 22120	0	2
B22121 TIDE STATION MANUAL WATER LEVEL CHECK	CODE TABLE 22121	0	2
B22122 TIDE STATION AUTOMATED METEOROLOGICAL DATA CHECK	CODE TABLE 22122	0	2
B22123 TIDE STATION MANUAL METEOROLOGICAL DATA CHECK	CODE TABLE 22123	0	2
B22141 SEA-SURFACE TEMPERATURE (15-DAY RUNNING MEAN)	K	2	5
B23001 ACCIDENT EARLY NOTIFICATION - ARTICLE APPLICABLE	CODE TABLE 23001	0	1
B23002 ACTIVITY OR FACILITY INVOLVED IN INCIDENT	CODE TABLE 23002	0	2
B23003 TYPE OF RELEASE	CODE TABLE 23003	0	1
B23004 COUNTERMEASURES TAKEN NEAR BORDER	CODE TABLE 23004	0	1
B23005 CAUSE OF INCIDENT	CODE TABLE 23005	0	1
B23006 INCIDENT SITUATION	CODE TABLE 23006	0	1
B23007 CHARACTERISTICS OF RELEASE	CODE TABLE 23007	0	1
B23008 STATE OF CURRENT RELEASE	CODE TABLE 23008	0	1
B23009 STATE OF EXPECTED RELEASE	CODE TABLE 23009	0	1
B23016 POSSIBILITY OF SIGNIFICANT CHEMICAL TOXIC HEALTH EFFECT	CODE TABLE 23016	0	1
B23017 FLOW DISCHARGE OF MAJOR RECIPIENT	M**3/S	6	7
B23018 RELEASE BEHAVIOUR OVER TIME	CODE TABLE 23018	0	1
B23019 ACTUAL RELEASE HEIGHT	M	0	6
B23021 EFFECTIVE RELEASE HEIGHT	M	0	6
B23022 DISTANCE OF RELEASE POINT OR SITE OF INCIDENT	M	0	8
B23023 MAIN TRANSPORT SPEED IN THE ATMOSPHERE	M/S	1	4
B23024 MAIN TRANSPORT SPEED IN WATER	M/S	2	4
B23025 MAIN TRANSPORT SPEED IN GROUND WATER	M/S	2	4
B23027 MAIN TRANSPORT DIRECTION IN THE ATMOSPHERE	DEGREE TRUE	0	3
B23028 MAIN TRANSPORT DIRECTION IN WATER	DEGREE TRUE	0	3
B23029 MAIN TRANSPORT DIRECTION IN GROUND WATER	DEGREE TRUE	0	3
B23031 POSSIBILITY THAT PLUME WILL ENCOUNTER PRECIPITATION IN STATE IN	CODE TABLE 23031	0	1
B23032 PLUME WILL ENCOUNTER CHANGE IN WIND DIRECTION AND/OR SPEED FLAG	CODE TABLE 23032	0	1
B24001 ESTIMATE OF AMOUNT OF RADIOACTIVITY RELEASED UP TO SPECIFIED TIM	Bq	-11	9
B24002 ESTIMATED MAXIMUM POTENTIAL RELEASE	Bq	-11	9
B24003 COMPOSITION OF RELEASE	CODE TABLE 24003	0	2
B24004 ELEMENT NAME	CHARACTER	0	2
B24005 ISOTOPE MASS	NUMERIC	0	3
B24011 DOSE	mSv	2	10
B24012 TRAJECTORY DOSE (DEFINED LOCATION AND EXPECTED TIME OF ARRIVAL)	mSv	2	10
B24013 GAMMA DOSE IN AIR ALONG THE MAIN TRANSPORT PATH (DEFINED LOCATIO	mSv	2	10
B24021 AIR CONCENTRATION (OF NAMED ISOTOPE TYPE INCLUDING GROSS BETA)	Bq/M**3	2	10
B24022 CONCENTRATION IN PRECIPITATION (OF NAMES ISOTOPE TYPE)	BQ L-1	2	10
B24023 PULSE RATE OF BETA RADIATION	1/S	1	4
B24024 PULSE RATE OF GAMMA RADIATION	1/S	1	4
B25001 RANGE-GATE LENGTH	M	-1	2
B25002 NUMBER OF GATES AVERAGED	NUMERIC	0	2
B25003 NUMBER OF INTEGRATED PULSES	NUMERIC	0	3
B25004 ECHO PROCESSING	CODE TABLE 25004	0	1
B25005 ECHO INTEGRATION	CODE TABLE 25005	0	1
B25006 Z TO R CONVERSION	CODE TABLE 25006	0	1
B25007 Z TO R CONVERSION FACTOR	NUMERIC	0	4
B25008 Z TO R CONVERSION EXPONENT	NUMERIC	2	3
B25009 CALIBRATION METHOD	FLAG TABLE 25009	0	2
B25010 CLUTTER TREATMENT	CODE TABLE 25010	0	2
B25011 GROUND OCCULTATION CORRECTION (SCREENING)	CODE TABLE 25011	0	1
B25012 RANGE ATTENUATION CORRECTION	CODE TABLE 25012	0	1
B25013 BRIGHT-BAND CORRECTION	FLAG TABLE 25013	0	1
B25014 AZIMUTH CLUTTER CUT-OFF (SEE NOTE 1)	NUMERIC	0	4
B25015 RADOME ATTENUATION CORRECTION	FLAG TABLE 25015	0	1
B25016 CLEAR-AIR ATTENUATION CORRECTION	dB/M	5	2
B25017 PRECIPITATION ATTENUATION CORRECTION	FLAG TABLE 25017	0	1
B25018 A TO Z LAW FOR ATTENUATION FACTOR	NUMERIC	7	2
B25019 A TO Z LAW FOR ATTENUATION EXPONENT	NUMERIC	2	3
B25020 MEAN SPEED ESTIMATION	CODE TABLE 25020	0	1
B25021 WIND COMPUTATION ENHANCEMENT	FLAG TABLE 25021	0	3
B25025 BATTERY VOLTAGE	V	1	3
B25030 RUNNING MEAN SEA-SURFACE TEMPERATURE USAGE	CODE TABLE 25030	0	1
B25032 WIND PROFILER MODE INFORMATION	CODE TABLE 25032	0	1
B25033 WIND PROFILER SUBMODE INFORMATION*	CODE TABLE 25033	0	1
B25034 WIND PROFILER QUALITY CONTROL TEST RESULTS*	FLAG TABLE 25034	0	2
B25036 ATMOSPHERICS LOCATION METHOD	CODE TABLE 25036	0	2
B25040 CO2 WIND PRODUCT DERIVATION	CODE TABLE 25040	0	2
B25041 MOVING PLATFORM DIRECTION REPORTING METHOD	CODE TABLE 25041	0	1
B25042 MOVING PLATFORM SPEED REPORTING METHOD	CODE TABLE 25042	0	1
B25043 WAVE SAMPLING INTERVAL (TIME)	S	4	5
B25044 WAVE SAMPLING INTERVAL (SPACE)	M	2	5
B25045 HIRS CHANNEL COMBINATION	FLAG TABLE 25045	0	7
B25046 MSU CHANNEL COMBINATION	FLAG TABLE 25046	0	2
B25047 SSU CHANNEL COMBINATION	FLAG TABLE 25047	0	2
B25048 AMSU-A CHANNEL COMBINATION	FLAG TABLE 25048	0	6
B25049 AMSU-B CHANNEL COMBINATION	FLAG TABLE 25049	0	2
B25051 AVHRR CHANNEL COMBINATION	FLAG TABLE 25051	0	3
B25053 OBSERVATION QUALITY	FLAG TABLE 25053	0	4
B25054 SSMIS SUBFRAME ID NEMBER	NUMERIC	0	2
B25055 MULTIPLEXER HOUSEKEEPING	K	2	5

B25060	SOFTWARE IDENTIFICATION (SEE NOTE 2)	NUMERIC	0	5
B25061	SOFTWARE IDENTIFICATION AND VERSION NUMBER	CHARACTER	0	12
B25065	ORIENTATION CORRECTION (AZIMUTH)	DEGREE	2	4
B25066	ORIENTATION CORRECTION (ELEVATION)	DEGREE	2	4
B25067	RADIOSONDE RELEASE POINT PRESSURE CORRECTION	PA	0	4
B25068	NUMBER OF ARCHIVE RECOMPUTES	NUMERIC	0	3
B25069	FLIGHT LEVEL PRESSURE CORRECTIONS	FLAG TABLE 25069	0	3
B25070	MAJOR FRAME COUNT	NUMERIC	0	2
B25071	FRAME COUNT	NUMERIC	0	2
B25075	SATELLITE ANTENNA CORRECTIONS VERSION NUMBER	NUMERIC	0	2
B25076	LOG-10 OF (TEMPERATURE-RADIANCE CENTRAL WAVE NUMBER) FOR ATOVS	LOG (1/M)	8	10
B25077	BANDWIDTH CORRECTION COEFFICIENT 1 FOR ATOVS	NUMERIC	5	7
B25078	BANDWIDTH CORRECTION COEFFICIENT 2 FOR ATOVS	NUMERIC	5	6
B25079	ALBEDO-RADIANCE SOLAR FILTERED IRRADIANCE FOR ATOVS	W/M**2	4	8
B25080	ALBEDO-RADIANCE EQUIVALENT FILTER WIDTH FOR ATOVS	M	10	5
B25085	FRACTION OF CLEAR PIXELS IN HIRS FOV	NUMERIC	0	3
B25086	DEPTH CORRECTION INDICATOR	CODE TABLE 25086	0	1
B25091	STRUCTURE CONSTANT OF THE REFRACTION INDEX (CN2)	dB	3	5
B25092	ACOUSTIC PROPAGATION VELOCITY	M/S	2	5
B25093	RASS COMPUTATION CORRECTION	FLAG TABLE 25093	0	3
B25095	ALTIMETER STATE FLAG	FLAG TABLE 25095	0	1
B25096	RADIOMETER STATE FLAG	FLAG TABLE 25096	0	2
B25097	THREE DIMENSIONAL ERROR ESTIMATE OF THE NAVIGATOR ORBIT	CODE TABLE 25097	0	2
B25100	XBT/XCTD FALL RATE EQUATION COEFFICIENT A	NUMERIC	5	6
B25101	XBT/XCTD FALL RATE EQUATION COEFFICIENT 0	NUMERIC	5	6
B26001	PRINCIPAL TIME OF DAILY READING IN UTC OF MAXIMUM TEMPERATURE	HOUR	1	3
B26002	PRINCIPAL TIME OF DAILY READING IN UTC OF MINIMUM TEMPERATURE	HOUR	1	3
B26003	TIME DIFFERENCE	MINUTE	0	4
B26010	HOURS INCLUDED	FLAG TABLE 26010	0	9
B26020	DURATION OF PRECIPITATION	MINUTE	0	4
B27001	LATITUDE (HIGH ACCURACY)	DEGREE	5	7
B27002	LATITUDE (COARSE ACCURACY)	DEGREE	2	4
B27003	ALTERNATE LATITUDE (COARSE ACCURACY)	DEGREE	2	4
B27004	ALTERNATE LATITUDE (HIGH ACCURACY)	DEGREE	5	7
B27020	SATELLITE LOCATION COUNTER	NUMERIC	0	5
B27021	SATELLITE SUBLOCATION DIMENSION	NUMERIC	0	5
B27031	IN DIRECTION OF 0 DEGREES LONGITUDE, DISTANCE FROM THE EARTH’S C	M	2	10
B28001	LONGITUDE (HIGH ACCURACY)	DEGREE	5	8
B28002	LONGITUDE (COARSE ACCURACY)	DEGREE	2	5
B28003	ALTERNATE LONGITUDE (COARSE ACCURACY)	DEGREE	2	5
B28004	ALTERNATE LONGITUDE (HIGH ACCURACY)	DEGREE	5	8
B28031	IN DIRECTION 90 DEGREES EAST, DISTANCE FROM THE EARTH’S CENTRE	M	2	10
B29001	PROJECTION TYPE	CODE TABLE 29001	0	1
B29002	CO-ORDINATE GRID TYPE	CODE TABLE 29002	0	1
B30001	PIXEL VALUE (4 BITS)	NUMERIC	0	2
B30002	PIXEL VALUE (8 BITS)	NUMERIC	0	3
B30004	PIXEL VALUE (16 BITS)	NUMERIC	0	5
B30021	NUMBER OF PIXELS PER ROW	NUMERIC	0	4
B30022	NUMBER OF PIXELS PER COLUMN	NUMERIC	0	4
B30031	PICTURE TYPE	CODE TABLE 30031	0	2
B30032	COMBINATION WITH OTHER DATA	FLAG TABLE 30032	0	6
B31000	SHORT DELAYED DESCRIPTOR REPLICATION FACTOR	NUMERIC	0	1
B31001	DELAYED DESCRIPTOR REPLICATION FACTOR	NUMERIC	0	3
B31002	EXTENDED DELAYED DESCRIPTOR REPLICATION FACTOR	NUMERIC	0	5
B31011	DELAYED DESCRIPTOR AND DATA REPETITION FACTOR	NUMERIC	0	3
B31012	EXTENDED DELAYED DESCRIPTOR AND DATA REPETITION FACTOR	NUMERIC	0	5
B31021	ASSOCIATED FIELD SIGNIFICANCE	CODE TABLE 31021	0	2
B31031	DATA PRESENT INDICATOR	FLAG TABLE 31031	0	1
B33002	QUALITY INFORMATION	CODE TABLE 33002	0	1
B33003	QUALITY INFORMATION	CODE TABLE 33003	0	1
B33005	QUALITY INFORMATION (AWS DATA)	FLAG TABLE 33005	0	10
B33006	INTERNAL MEASUREMENT STATUS INFORMATION (AWS)	CODE TABLE 33006	0	1
B33007	PER CENT CONFIDENCE	%	0	3
B33015	DATA QUALITY CHECK INDICATOR	CODE TABLE 33015	0	2
B33020	QUALITY CONTROL INDICATION OF FOLLOWING VALUE	CODE TABLE 33020	0	1
B33021	QUALITY OF FOLLOWING VALUE	CODE TABLE 33021	0	1
B33022	QUALITY OF BUOY SATELLITE TRANSMISSION	CODE TABLE 33022	0	1
B33023	QUALITY OF BUOY LOCATION	CODE TABLE 33023	0	1
B33024	STATION ELEVATION QUALITY MARK (FOR MOBILE STATIONS)	CODE TABLE 33024	0	2
B33025	ACARS INTERPOLATED VALUES	CODE TABLE 33025	0	1
B33026	MOISTURE QUALITY	CODE TABLE 33026	0	2
B33027	LOCATION QUALITY CLASS (RANGE OF RADIUS OF 66 % CONFIDENCE)	CODE TABLE 33027	0	1
B33030	SCAN LINE STATUS FLAGS FOR ATOVS	FLAG TABLE 33030	0	8
B33031	SCAN LINE QUALITY FLAGS FOR ATOVS	FLAG TABLE 33031	0	8
B33032	CHANNEL QUALITY FLAGS FOR ATOVS	FLAG TABLE 33032	0	8
B33033	FIELD OF VIEW QUALITY FLAGS FOR ATOVS	FLAG TABLE 33033	0	8
B33035	MANUAL/AUTOMATIC QUALITY CONTROL	CODE TABLE 33035	0	2
B33036	NOMINAL CONFIDENCE THRESHOLD	%	0	3
B33037	WIND CORRELATION ERROR	FLAG TABLE 33037	0	7
B33038	QUALITY FLAGS FOR GROUND-BASED GNSS DATA	FLAG TABLE 33038	0	4
B33040	CONFIDENCE INTERVAL	PERCENT	0	3
B33041	ATTRIBUTE OF FOLLOWING VALUE	CODE TABLE 33041	0	1
B33050	GLOBAL GTSPP QUALITY FLAG	CODE TABLE 33050	0	2
B35000	FM AND REGIONAL CODE NUMBER	CODE TABLE 35000	0	3
B35001	TIME-FRAME FOR MONITORING	CODE TABLE 35001	0	1
B35011	NUMBER OF REPORTS ACTUALLY RECEIVED	NUMERIC	0	4
B35021	BULLETIN BEING MONITORED (TTAAII)	CHARACTER	0	6
B35022	BULLETIN BEING MONITORED (YYGGGG)	CHARACTER	0	6
B35023	BULLETIN BEING MONITORED (CCCC)	CHARACTER	0	4
B35024	BULLETIN BEING MONITORED (BBB)	CHARACTER	0	3
B35030	DISCREPANCIES IN THE AVAILABILITY OF EXPECTED DATA	CODE TABLE 35030	0	1
B35031	QUALIFIER ON MONITORING RESULTS	CODE TABLE 35031	0	2
B35032	CAUSE OF MISSING DATA	CODE TABLE 35032	0	1

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B35033 OBSERVATION AND COLLECTION DEFICIENCIES                         CODE TABLE 35033          0          2
B35034 STATISTICAL TRENDS FOR AVAILABILITY OF DATA (DURING THE SURVEY P CODE TABLE 35034          0          1
B35035 REASON FOR TERMINATION                                          CODE TABLE 35035          0          2
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3.1.2 CREX Table D

CREX Table D - D000103 valid since 2002/11/01

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3.1.3 CREX Code and Flag Tables

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            0001 01 REGION I
            0002 01 REGION II
            0003 01 REGION III
            0004 01 REGION IV
            0005 01 REGION V
            0006 01 REGION VI
            0007 01 MISSING VALUE
B01007 0027 0001 01 ERS1
            0002 01 ERS2
            0020 01 SPOT1
            0021 01 SPOT2
            0050 01 METEOSAT 3
            0051 01 METEOSAT 4
            0150 01 GMS 3
            0151 01 GMS 4
            0200 01 NOAA 8
            0201 01 NOAA 9
            0202 01 NOAA 10
            0203 01 NOAA 11
            0220 01 LANDSAT 5
            0221 01 LANDSAT 6
            0240 01 DMSP 7
            0241 01 DMSP 8
            0242 01 DMSP 9
            0243 01 DMSP 10
            0244 01 DMSP 11
            0250 01 GOES 6
            0251 01 GOES 7
            0252 01 GOES 8
            0253 01 GOES 9
            0254 01 GOES 10
            0255 01 GOES 11
            0256 01 GOES 12
            1023 01 MISSING VALUE
B01031 0008 0000 01 RESERVED
            0007 01 US WEATHER SERVICE-NMC
            0034 01 JAPAN METEOROLOGICAL AGENCY(TOKYO)
            0046 01 BRAZILIAN SPACE AGENCY-INPE
            0052 01 NATIONAL HURRICANE CENTRE,MIAMI,FL,USA-RSMC
            0057 01 US AIR FORCE - AFGWC
            0058 01 US NAVY - FNOC
            0059 01 NOAA FORECAST SYSTEMS LABORATORY,BOULDER,CO,USA
            0074 01 UK METEOROLOGICAL OFFICE,BRACKNELL
            0098 01 ECMWF
            0255 01 MISSING VALUE
B01032 0041 0001 01 PREPROCESSING CONSISTENCY CHECK
            0010 01 BIAS CORRECTION
            0020 01 BLACK LIST
            0030 01 OI MASS AND WIND ANALYSIS, REPORT STATUS
            0031 01 OI HUMIDITY ANALYSIS, REPORT STATUS
            0032 01 OI ANALYSIS VARIABLES
            0033 01 OI ANALYSIS, FIRST GUESS Q/C
            0034 01 OI ANALYSIS, FINAL ANALYSIS Q/C
            0035 01 OI ANALYSIS, EVENT FLAGS
            0040 01 DYNAMIC INITIALISATION SCHEME
            0041 01 NORMAL MODE INITIALISATION SCHEME
            0050 01 SURFACE ANALYSIS, REPORT STATUS
            0051 01 SURFACE ANALYSIS VARIABLES
            0052 01 SURFACE ANALYSIS Q/C
            0053 01 SURFACE ANALYSIS, EVENT FLAGS
            0060 01 3D VAR REPORT STATUS
            0061 01 3D VAR ANALYSIS VARIABLES
            0062 01 3D VAR Q/C
            0063 01 3D VAR EVENT FLAGS
            0080 01 PRESAT FIRST GUESS
            0081 01 PRESAT ERROR STANDARD DEVIATIONS
            0082 01 PRESAT BIAS ESTIMATES
            0083 01 PRESAT BRIGHTNESS TEMPERATURE QUALITY FLAGS
            0084 01 PRESAT SAMARY FLAGS
            0090 01 FIRST GUESS (6 HOUR FORECAST)
            0091 01 FIRST GUESS (FGAT INTERPOLATED)
            0100 01 PRESCAT AMBIGUITY REMOVAL
            0110 01 WAM FIRST GUESS
            0111 01 WAM ANALYSIS
            0112 01 WAM FORECAST
            0113 01 WAM Q/C
            0201 01 COLLOCATION WITH SURFACE DATA
            0202 01 COLLOCATION WITH TEMP/PILOT DATA
            0203 01 COLLOCATION WITH AIREP DATA
            0204 01 COLLOCATION WITH SATOB DATA
            0205 01 COLLOCATION WITH TOVS DATA
            0206 01 COLLOCATION WITH ERS1 SCATTEROMETER DATA
            0207 01 COLLOCATION WITH ERS1 ALTIMETER DATA
            0220 01 ERS1 SCATTEROMETER COLLOCATION BLACK LIST
            0230 01 GAUSS ERROR
            0231 01 GROSS ERROR
B02001 0004 0000 01 AUTOMATIC STATION
            0001 01 MANNED STATION
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            0002 01 HYBRID, BOTH MANNED AND AUTOMATIC
            0003 01 MISSING VALUE
B02002 0003 0001 01 CERTIFIED INSTRUMENTS
            0002 01 ORIGINALY MEASURED IN KNOTS
            0003 01 ORIGINALY MEASURED IN KM/H
B02003 0010 0000 01 PRESSURE INSTRUMENT ASSOCIATED WITH WIND-MEASURING EQUIPMENT
            0001 01 OPTICAL THEODOLITE
            0002 01 RADIO THEODOLITE
            0003 01 RADAR
            0004 01 VLF-OMEGA
            0005 01 LORAN C
            0006 01 WIND PROFILER
            0007 01 SATELLITE NAVIGATION
            0014 02 PRESSURE INSTRUMENT ASSOCIATED WITH WIND MEASUREMENT EQUIPME
                    NT BUT PRESSURE ELEMENT FAILED DURING ASCENT
            0015 01 MISSING VALUE
B02004 0011 0000 01 USA OPEN PAN EVAPORIMETER (WITHOUT COVER)
            0001 01 USA OPEN PAN EVAPORIMETER (MESH COVERED)
            0002 01 GGI-300 EVAPORIMETER (SUNKEN)
            0003 01 20 M**2 TANK
            0004 01 OTHERS
            0005 01 RICE
            0006 01 WHEAT
            0007 01 MAIZE
            0008 01 SORGHUM
            0009 01 OTHER CROPS
            0015 01 MISSING VALUE
B02011 0054 0000 01 RESERVED
            0001 01 RESERVED
            0002 01 NO RADIOSONDE-PASSIVE TARGET(E.G.REFLECTOR)
            0003 01 NO RADIOSONDE-ACTIVE TARGET(E.G.TRANSPONDER)
            0004 01 NO RADIOSONDE-PASSIVE TEMPERATURE-HUMIDITY PROFILER
            0005 01 NO RADIOSONDE-ACTIVE TEMPERATURE-HUMIDITY PROFILER
            0006 01 NO RADIOSONDE-RADIO ACOUSTIC SOUNDER
            0009 01 NO RADIOSONDE-SYSTEM UNKNOWN OR NOT SPECIFIED
            0010 01 RS VIZ TYPE A (USA)
            0011 01 RS VIZ TYPE B (USA)
            0012 01 RS SDC (SPACE DATA CORPORATION-USA)
            0013 01 ASTOR (NO LONGER MADE-AUSTRALIA)
            0014 01 VIZ MARK I MICROSONDE(USA)
            0015 01 EEC COMPANY TYPE 23 (USA)
            0016 01 ELIN (AUSTRIA)
            0017 01 GRAW G. (GERMANY)
            0019 01 GRAW M60 (GERMANY)
            0020 01 INDIAN MET SERVICE MK3 (INDIA)
            0021 01 VIZ/JIN YANG MARK I MICROSONDE(SOUTH KOREA)
            0022 01 MEISEI RS2-80 (JAPAN)
            0023 01 MESURAL FMO 1950A (FRANCE)
            0024 01 MESURAL FMO 19455A (FRANCE)
            0025 01 MESURAL MH73A (FRANCE)
            0026 01 METEOLABOR BASORA (SWITZERLAND)
            0027 01 AVK-MRZ (USSR)
            0028 01 METEORIT MARZ2-1 (USSR)
            0029 01 METEIRIT MARZ2-2 (USSR)
            0030 01 OKI RS2-80 (JAPAN)
            0031 01 VIZ/VALCOM TYPE A PRESSURE-COMMUTATED(CANADA)
            0032 01 SHANGAI RADIO (CHINA)
            0033 01 UK MET OFFICE MK3( UK)
            0034 01 VINOHRADY(CZECHOSLOVAKIA)
            0035 01 VAISALA RS18 (FINLAND)
            0036 01 VAISALA RS21 (FINLAND)
            0037 01 VAISALA RS80 (FINLAND)
            0038 01 VIZ LOCATE (LORAN-C)(USA)
            0039 01 SPRENGER E076 (GERMANY)
            0040 01 SPRENGER E084 (GERMANY)
            0041 01 SPRENGER E085 (GERMANY)
            0042 01 SPRENGER E086 (GERMANY)
            0043 01 AIR IS -4A-1680 (UK)
            0044 01 AIR IS -4A-1680 X (UK)
            0045 01 RS MSS(USA)
            0046 01 AIR IS -4A-403(USA)
            0047 01 MEISLEI RS2-91(JAPAN)
            0048 01 VALCOM(CANADA)
            0049 01 VIZ MARK II(USA)
            0060 01 VAISALA RS80/MICROCORA (FINLAND)
            0061 01 VAISALA RS80/DIGCORA OR MARWIN (FINLAND)
            0062 01 VAISALA RS80/PCCORA (FINLAND)
            0063 01 VAISALA RS80/STAR (FINLAND)
            0064 03 ORBITAL,SCIENCE CORPORATION,SPACE DATA DIVISION,TRANSPONDER
                    RADIOSONDE,TYPE 909-11-XX,WHERE XX CORRECPOND TO THE MODEL
                    OF THE INSTRUMENT
            0065 03 VIZ TRANSPONDER RADIOSONDE,MODEL NUMBER 1499-520(USA)
            0255 01 MISSING VALUE
B02012 0001 0000 01 TO BE DEVELOPED
B02013 0009 0000 01 NO CORRECTION
            0001 01 CIMO SOLAR CORRECTED AND CIMO INFRARED CORRECTED
            0002 01 CIMO SOLAR CORRECTED AND IFRARED CORRECTED
            0003 01 CIMO SOLAR CORRECTED ONLY
            0004 02 SOLAR AND INFRARED CORRECTED AUTOMATICALLY BY RADIOSONDE SY
                    STEM
            0005 01 SOLAR CORRECTED AUTOMATICALLY BY RADIOSONDE SYSTEM
            0006 01 SOLAR AND INFRARED CORRECTED AS SPECIFIED BY COUNTRY
            0007 01 SOLAR CORRECTED AS SPECIFIED BY COUNTRY
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            0015 01 MISSING VALUE
B02014 0050 0000 01 NO WINDFINDING
            0001 01 AUTOMATIC WITH AUXILIARY OPTICAL DIRECTION FINDING
            0002 01 AUTOMATIC WITH AUXILIARY RADIO DIRECTION FINDING
            0003 01 AUTOMATIC WITH AUXILIARY RANGING
            0004 01 NOT USED
            0005 01 AUTOMATIC WITH MULTIPLE VLF-OMEGA SIGNALS
            0006 01 AUTOMATIC CROSS CHAIN LORAN-C
            0007 01 AUTOMATIC WITH AUXILIARY WIND PROFILER
            0008 01 AUTOMATIC SATELLITE NAVIGATION
            0019 01 TRACKING TECHNIQUE NOT SPECIFIED
            0020 01 VESSEL STOPPED
            0021 01 VESSEL DIVERTED FROM ORIGINAL DESTINATION
            0022 01 VESSEL'S ARRIVAL DELAYED
            0023 01 CONTAINER DAMAGED
            0024 01 POWER FAILURE TO CONTAINER
            0029 01 OTHER PROBLEMS
            0030 01 MAJOR POWER PROBLEMS
            0031 01 UPS INOPERATIVE
            0032 01 RECEIVER HARDWARE PROBLEMS
            0033 01 RECEIVER SOFTWARE PROBLEMS
            0034 01 PROCESSOR HARDWARE PROBLEMS
            0035 01 PROCESSOR SOFTWARE PROBLEMS
            0036 01 NAVAID SYSTEM DAMAGED
            0037 01 SHORTAGE OF LIFTING GAS
            0039 01 OTHER PROBLEMS
            0040 01 MECHANICAL DEFECT
            0041 01 MATERIAL DEFECT (HAND LAUNCHER)
            0042 01 POWER FAILURE
            0043 01 CONTROL FAILURE
            0044 01 PNEUMATIC/HYDRAULIC FAILURE
            0045 01 OTHER PROBLEMS
            0046 01 COMPRESSOR PROBLEMS
            0047 01 BALLOON PROBLEMS
            0048 01 BALLOON RELEASE PROBLEMS
            0049 01 LAUNCHER DAMAGED
            0050 01 R/S RECEIVER ANTENNA DEFECT
            0051 01 NAVAID ANTENNA DEFECT
            0052 01 R/S RECEIVER CABLING (ANTENNA DEFECT)
            0053 01 NAVAID ANTENNA CABLING DEFECT
            0059 01 OTHER PROBLEMS
            0060 01 ASAP COMMUNICATIONS DEFECT
            0061 01 COMMUNICATIONS FACILITY REJECTED DATA
            0062 01 NO POWER AT TRANSMITTINGANTENN
            0063 01 ANTENNA CABLE BROKEN
            0064 01 ANTENNA CABLE DEFECT
            0065 01 MESSAGE TRANSMITTED POWER BELOW NORMAL
            0069 01 OTHER PROBLEMS
            0070 01 ALL SYSTEMS IN NORMAL OPERATION
            0099 01 STATUS OF SYSTEM AND ITS COMPONENTS NOT SPECIFIED
            0127 01 MISSING VALUE
B02015 0006 0001 01 PRESSURE ONLY RADIOSONDE
            0002 01 PRESSURE ONLY RADIOSONDE PLUS TRANSPONDER
            0003 01 PRESSURE ONLY RADIOSONDE PLUS RADAR REFLECTOR
            0004 01 NO PRESSURE RADIOSONDE PLUS TRANSPONDER
            0005 01 NO PRESSURE RADIOSONDE PLUS RADAR REFLECTOR
            0015 01 MISSING VALUE
B02021 0008 0001 01 HIGH RESOLUTION INFRA RED SOUNDER (HIRS)
            0002 01 MICROWAVE SOUNDING UNIT           (MSU )
            0003 01 STRATOSPHERIC SOUNDING UNIT       (SSU)
            0004 01 AMI WIND MODE
            0005 01 AMI WAVE MODE
            0006 01 AMI IMAGE MODE
            0007 01 RADAR ALTIMETER
            0008 01 ATSR
B02022 0005 0001 01 PROCESSING TECHNIQUE NOT DEFINED
            0002 01 AUTOMATED STATISTICAL REGRESSION
            0003 01 CLEAR PATH
            0004 01 PARTLY CLOUDY PATH
            0005 01 CLOUDY PATH
B02023 0008 0000 02 WIND DERIVED FROM CLOUD MOTION OBSERVED IN THE WATER VAPOUR
                    CHANNEL
            0001 02 WIND DERIVED FROM CLOUD MOTION OBSERVED IN THE INFRARED
                    CHANNEL
            0002 01 WIND DERIVED FROM CLOUD MOTION OBSERVED IN THE VISIBLE CHANNEL
            0003 02 WIND DERIVED FROM CLOUD MOTION OBSERVED IN WATER VAPOUR CHANNEL
                    (CLOUD OR CLEAR AIR NOT  SPECIFIED)
            0004 02 WIND DERIVED FROM MOTION OBSERVED IN  COMBINATION OF SPECTRAL
                    CHANNELS
            0005 02 WIND DERIVED FROM MOTION OBSERVED IN THE WATER  VAPOUR CHANNEL
                    IN CLEAR AIR
            0006 01 WIND DERIVED FROM MOTION OBSERVED IN THE OZONE  CHANNEL
            0007 01 WIND DERIVED FROM MOTION OBSERVED IN WATER VAPOUR CHANNEL
                    (CLOUD OR CLEAR AIR NOT SPECIFIED)
            0008 01 WIND DERIVED FROM ALTIMETER
            0009 01 WIND DERIVED FROM RADIOMETER
            0015 01 MISSING VALUE
B02024 0015 0002 01 OBSERVED MINUS MAXIMUM
            0003 01 OBSERVED MINUS MINIMUM
            0004 01 OBSERVED MINUS MEAN
            0005 01 OBSERVED MINUS MEDIAN
            0006 01 OBSERVED MINUS MODE
            0011 01 OBSERVED MINUS CLIMATOLOGY (ANOMALY)
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           0012 01 OBSERVED MINUS ANALYZED VALUE
           0013 01 OBSERVED MINUS INITIALISED ANALYZED VALUE
           0014 01 OBSERVED MINUS FORECAST VALUE
           0021 01 OBSERVED MINUS INTERPOLATED VALUE
           0022 01 OBSERVED MINUS HYDROSTATICALLY CALCULATED VALUE
           0032 01 OBSERVED MINUS FIRST GUESS
           0033 01 OBSERVED MINUS ANALYSIS
           0034 01 OBSERVED MINUS INITIALIZED ANALYSIS
           0063 01 MISSING
B02025 0016 0001 01 RESERVED
           0002 01 HIRS
           0003 01 MSU
           0006 01 HIRS
           0007 01 MSU
           0010 01 HIRS(1, 2, 3, 8, 16, 17)
           0011 01 HIRS(1, 2, 3, 9, 17)
           0012 01 MSU
           0015 01 HIRS
           0016 01 HIRS
           0017 01 MSU
           0018 01 SKINTK(OCEAN ONLY)
           0021 01 HIRS
           0022 01 SSU
           0023 01 MSU (3 ,4)
           0025 01 MISSING
B02030 0004 0002 01 GEK (GEOMAGNETIC ELECTRO KINETOGRAPH)
           0003 01 SHIPS'S SET AND DRIFT DETERMINED BY FIXES 3-6 HOURS APART
           0004 02 SHIPS'S SET AND DRIFT DETERMINED BY MORE THAN 6 HOURS
                   BUT LESS THAN 12 HOURS APART
           0007 01 MISSIN VALUE
B02031 0021 0000 01 RESERVED
           0001 01 INSTANTANEOUS
           0002 01 AVERAGED OVER 3 MINUTES OR LESS
           0003 01 AVERAGED OVER MORE THAN 3 MINUTES, BUT 6 AT THE MOST
           0004 01 AVERAGED OVER MORE THAN 6 MINUTES, BUT 12 AT THE MOST
           0005 01 INSTANTANEOUS
           0006 01 AVERAGED OVER 3 MINUTES OR LESS
           0007 01 AVERAGED OVER MORE THAN 3 MINUTES, BUT 6 AT THE MOST
           0008 01 AVERAGED OVER MORE THAN 6 MINUTES, BUT 12 AT THE MOST
           0009 01 VECTOR OR DOPPLER CURRENT PROFILLING METHOD NOT USED
           0010 01 RESERVED
           0011 01 1 HOUR OR LESS
           0012 01 MORE THAN  1 HOUR BUT  2 AT THE MOST
           0013 01 MORE THAN  2 HOUR BUT  4 AT THE MOST
           0014 01 MORE THAN  4 HOUR BUT  8 AT THE MOST
           0015 01 MORE THAN  8 HOUR BUT 12 AT THE MOST
           0016 01 MORE THAN 12 HOUR BUT 18 AT THE MOST
           0017 01 MORE THAN 18 HOUR BUT 24 AT THE MOST
           0018 01 RESERVED
           0019 01 DRIFT METHOD NOT USED
           0031 01 MISSING
B02032 0004 0000 02 VALUES AT SELECTED DEPTHS (DATA POINTS FIXED BY THE INSTRUME
                   NT OR SELECTED BY ANY OTHER METHOD)
           0001 02 VALUES AT SIGNIFICANT DEPTHS (DATA POINTS TAKEN FROM TRACES
                   AT SIGNIFICANT DEPTHS)
           0002 01 RESERVED
           0003 01 MISSING VALUE
B02033 0005 0000 01 NO SALINITY MEASURED
           0001 01 IN SITU SENSOR, ACCURACY BETTER THAN 0.02 %
           0002 01 IN SITU SENSOR, ACCURACY LESS THAN 0.02 %
           0003 01 SAMPLE ANALYSIS
           0007 01 MISSING VALUE
B02034 0001 0031 01 MISSING VALUE
B02036 0004 0000 01 DRIFTING BUOY
           0001 01 FIXED BUOY
           0002 01 RESERVED
           0003 01 MISSING VALUE
B02037 0007 0000 01 REASERVED
           0001 01 MANUAL READING FROM VERTICAL TIDE STAFF
           0002 01 MANUAL READING FROM SINGLE AUTOMATIC RECORDER AT STATION
           0003 01 MANUAL READING FROM MULTIPLE AUTOMATIC RECORDERS AT STATION
           0004 02 AUTOMATIC READING FROM SINGLE AUTOMATIC RECORDER AT STATION
                   WITHOUT LEVEL REFERENCE CHECK
           0005 02 AUTOMATIC READING FROM SINGLE AUTOMATIC RECORDER AT STATION
                   WITH LEVEL REFERENCE CHECK,OR MULTIPLE AUTOMATIC RECORDERS
           0007 01 MISSING
B02038 0012 0000 01 SHIP INTAKE
           0001 01 BUCKET
           0002 01 HULL CONTACT SENSOR
           0003 01 REVERSING TERMOMETER
           0004 01 STD/CTD SENSOR
           0005 01 MECHANICAL BT
           0006 01 EXPANDABLE BT
           0007 01 DIGITAL BT
           0008 01 THERMISTOR CHAIN
           0009 01 INFRARED SCANNER
           0010 01 MICROWAVE SCANNER
           0015 01 MISSING VALUE
B02039 0005 0000 01 MEASURED WET-BULB TEMPERATURE
           0001 01 ICED BULB MEASURED WET-BULB TEMPERATURE
           0002 01 COMPUTED WET-BULB TEMPERATURE
           0003 01 ICED BULB COMPUTED WET-BULB TEMPERATURE
           0007 01 MISSING VALUE
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B02041 0005 0000 01 INFORMATION BASED ON MANUAL ANALYSIS
            0001 01 INFORMATION BASED ON COMPUTER ANALYSIS
            0002 01 INFORMATION BASED ON DATA ASSIMILATION
            0003 02 INFORMATION BASED ON COMPUTER ANALYSIS OR DATA ASSIMSILATIO
                    N MANUALLY MODIFIED
            0063 01 MISSING VALUE
B02044 0006 0000 01 RESERVED
            0001 01 LONGUET-HIGGINS (1964)
            0002 01 LONGUET-HIGGINS (F3 METHOS)
            0003 01 MAXIMUM LIKELIHOOD METHOD
            0004 01 MAXIMUM ENTROPY METHOD
            0015 01 MISSING VALUE
B02045 0005 0000 01 SEA STATION
            0001 01 AUTOMATIC DATA BUOY
            0002 01 AIRCRAFT
            0003 01 SATELLITE
            0015 01 MISSING VALUE

B02046 0004 0000 01 RESERVED
            0001 01 HEAVE SENSOR
            0002 01 SLOPE SENSOR
            0015 01 MISSING VALUE
B02048 0010 0000 01 HIRS
            0001 01 MSU
            0002 01 SSU
            0003 01 AMSU-A
            0004 01 AMSU-B
            0005 01 AVHRR
            0006 01 SSMI
            0007 01 NSCAT
            0008 01 SEA WINDS
            0015 01 MISSING VALUE
B02049 0004 0001 01 PROCESSING TECHNIQUE NOT DEFINED
            0002 01 SIMULTANIOUS PHISICAL RETRIEVAL
            0003 01 CLEAR SOUNDING
            0004 01 CLOUDY COUNDING
B02050 0019 0001 01 CHANNEL 1 14.71 MICROMETERS
            0002 01 CHANNEL 2 14.37 MICROMETERS
            0003 01 CHANNEL 3 14.06 MICROMETERS
            0004 01 CHANNEL 4 13.64 MICROMETERS
            0005 01 CHANNEL 5 13.37 MICROMETERS
            0006 01 CHANNEL 6 12.66 MICROMETERS
            0007 01 CHANNEL 7 12.02 MICROMETERS
            0008 01 CHANNEL 8 11.03 MICROMETERS
            0009 01 CHANNEL 9  9.71 MICROMETERS
            0010 01 CHANNEL 10 7.43 MICROMETERS
            0011 01 CHANNEL 11 7.02 MICROMETERS
            0012 01 CHANNEL 12 6.51 MICROMETERS
            0013 01 CHANNEL 13 4.57 MICROMETERS
            0014 01 CHANNEL 14 4.52 MICROMETERS
            0015 01 CHANNEL 15 4.45 MICROMETERS
            0016 01 CHANNEL 16 4.13 MICROMETERS
            0017 01 CHANNEL 17 3.98 MICROMETERS
            0018 01 CHANNEL 18 3.74 MICROMETERS
            0019 01 CHANNEL 19 0.969 MICROMETERS
B02051 0004 0001 01 MAXIMUM/MINIMUM THERMOMETERS
            0002 01 AUTOMATED INSTRUMENT
            0003 01 THERMOGRAPH
            0015 01 MISSING VALUE
B02052 0005 0001 01 CHANNEL 1 0.55-.75 MICROMETERS
            0002 01 CHANNEL 2 3.9 MICROMETERS
            0003 01 CHANNEL 3 6.7 MICROMETERS
            0004 01 CHANNEL 4 10.7 MICROMETERS
            0005 01 CHANNEL 5 12.0 MICROMETERS
B02053 0005 0000 01 OBSERVED BRIGHTNESS TEMPERATURES
            0001 01 BRIGHTNESS TEMPERATURE WITH BIAS CORRECTION APPLIED
            0002 01 BRIGHTNESS TEMPERATURE CALCULATED FROM FIRST GUESS
            0003 01 BRIGHTNESS TEMPERATURE CALCULATED FROM SOUNDING
            0015 01 MISSING VALUE
B02054 0006 0000 01 PARAMETER DERIVED USING OBSERVED SOUNDER BRIGHTNESS TEMPERATURES
            0001 01 PARAMETER DERIVED USING OBSERVED IMAGER BRIGHTNESS TEMPERATURES
            0002 01 PARAMETER DERIVED USING FIRST GUESS INFORMATION
            0003 01 PARAMETER DERIVED USING  NMC ANALYSIS INFORMATION
            0004 01 PARAMETER DERIVED USING RADIOSONDE INFORMATION
            0015 01 MISSING VALUE
B02055 0010 0000 01 STATISTICS GENERATED COMPARING RETRIEVAL VERSUS RADIOSONDE
            0001 01 STATISTICS GENERATED COMPARING RETRIEVAL VERSUS FIRST GUESS
            0002 01 STATISTICS GENERATED COMPARING RADIOSONDE VERSUS FIRST GUESS
            0003 01 STATISTICS GENERATED COMPARING OBSERVED VERSUS RETRIEVAL
            0004 01 STATISTICS GENERATED COMPARING OBSERVED VERSUS FORST GUESS
            0005 01 STATISTICS GENERATED COMPARING RADIOSONDE VERSUS IMAGER
            0006 01 STATISTICS GENERATED COMPARING RADIOSONDE VERSUS SOUNDER
            0007 01 STATISTICS GENERATED FOR RADIOSONDE
            0008 01 STATISTICS GENERATED FOR FIRST GUESS
B02056 0006 0000 01 SUMS OF DIFFERENCE
            0001 01 SUMS OF SQUARED DIFFERENCES
            0002 01 SAMPLE SIZE
            0003 01 MINIMUM DIFFERENCE
            0004 01 MAXIMUM DIFFERENCE
            0015 01 MISSING VALUE
B02057 0007 0000 01 NESTED GRID MODEL (NMG)
            0001 01 AVIATION MODEL(AVN)
            0002 01 MEDIUM RANGE FORECAST (MRF) MODEL
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            0003 01 GLOBAL DATA ASSIMILATION SYSTEM (GDAS) FORECAST MODEL
            0004 01 PRIOR SOUNDINGS (WITHIN 3 HOURS OF CURRENT TIME)
            0005 01 CLIMATOLOGY
B02058 0005 0000 01 12 HOUR AND 18 HOUR
            0001 01 18 HOUR AND 24 HOUR
            0002 01  6 HOUR AND 12 HOUR
            0003 01 GREATER THAN 24 HOUR
            0015 01 MISSING VALUE
B02059 0005 0000 01 NCEP NESTED GRID MODEL ANALYSIS
            0001 01 NCEP AVIATION MODEL ANALYSIS
            0002 01 NCEP MEDIUM RANGE FORECAST MODEL ANALYSIS
            0003 01 NCEP GLOBAL DATA ASSIMILATION SYSTEM FORECAST MODEL ANALYSIS
            0015 01 MISSING VALUE
B02060 0007 0000 01 CURRENT SURFACE HOURLY REPORTS
            0001 01 CURRENT SHIP REPORTS
            0002 01 CURRENT BUOY REPORTS
            0003 01 ONE HOUR OLD SURFACE HOURLY REPORTS
            0004 01 ONE HOUR SHIP OLD REPORTS
            0005 01 ONE HOUR BUOY OLD REPORTS
            0015 01 MISSING VALUE
B02061 0003 0000 01 INERTIAL NAVIGATOR SYSTEM
            0001 01 OMEGA
            0007 01 MISSING VALUE
B02062 0007 0000 01 ASDAR
            0001 01 ASDAR(ACARS ALSO AVAILABLE BUT NOT OPERATIVE)
            0002 01 ASDAR(ACARS ALSO AVAILABLE AND OPERATIVE)
            0003 01 ACARS
            0004 01 ACARS(ASDAR ALSO AVALILABLE BUT NOT OPERATIVE)
            0005 01 ACARS(ASDAR ALSO AVAILABLE AND OPERATIVE)
            0015 01 MISSING VALUE
B02064 0004 0000 01 GOOD
            0001 01 BAD
            0002 01 RESERVED
            0003 01 MISSING VALUE
B02070 0011 0000 01 ACTUAL LOCATION IN SECONDS
            0001 01 ACTUAL LOCATION IN MINUTES
            0002 01 ACTUAL LOCATION IN DEGREES
            0003 01 ACTUAL LOCATION IN DECIDEGREES
            0004 01 ACTUAL LOCATION OM CENTIDEGREES
            0005 01 REFERENCED TO CHECKPOINT IN SECONDS
            0006 01 REFERENCED TO CHECKPOINT IN MINUTES
            0007 01 REFERENCED TO CHECKPOINT IN DEGREES
            0008 01 REFERENCED TO CHECKPOINT IN DECIDEGREES
            0009 01 REFERENCED TO CHECKPOINT IN CENTIDEGREES
            0015 01 MISSING VALUE
B02101 0010 0000 01 CENTRE FRONT-FED PARABOLOID
            0001 01 OFFSET FRONT-FED PARABOLOID
            0002 01 CENTRE CASSEGRAIN PARABOLOID
            0003 01 OFFSET CASSEGRAIN PARABOLOID
            0004 01 PLANAR ARRAY
            0005 01 COAXIAL-COLLINEAR ARRAY
            0006 01 YAGI ELEMENTS ARRAY
            0007 01 MICROSTRIP
            0014 01 OTHER
            0015 01 MISSING VALUE
B02103 0002 0001 01 RADAR ANTENNA IS PROTECTED BY A RADOME
            0002 01 MISSING VALUE
B02104 0007 0000 01 HORIZONTAL POLARISATION
            0001 01 VERTICAL POLARISATION
            0002 01 RIGHT CIRCULAR POLARISATION
            0003 01 LEFT CIRCULAR POLARSZATION
            0004 01 HORIZONTAL AND VERTICAL POLARISATION
            0005 01 RIGHT AND LEFT CIRCULAR POLARISATION
            0015 01 MISSING VALUE
B02115 0011 0001 01 SIGMA-0 MEASUREMENT IS NOT USABLE
            0002 01 SIGNAL TO NOISE RATIO IS LOW
            0003 01 SIGMA-0 IS NEGATIVE
            0004 01 SIGMA-0 IS OUTSIDE OF ACCEPTABLE RANGE
            0005 01 SCATTEROMETER PULSE QUALITY IS NOT ACCEPTABLE
            0006 01 SIGMA-0 CELL LOCATION ALGORITHM DOES NOT CONVERGE
            0007 01 FREQUENCY SHIFT LIES BEYOND THE RANGE OF THE X FACTOR TABLE
            0008 01 SPACECRAFT TEMPERATURE IS BEYOND CALIBRATION COEFFICIENT RANGE
            0009 01 NO APPLICABLE ATTITUDE RECORDS WERE FOUND FOR THIS SIGMA-0
            0010 01 INTERPOLATED EPHEMERIS DATA ARE NOT ACCEPTABLE FOR THIS SIGMA-0
            0017 01 MISSING VALUE
B02131 0002 0001 01 STC OPERATIONAL
            0003 01 MISSING VALUE
B02143 0021 0000 01 RESERVED
            0001 01 BREWER SPECTROMETER
            0002 01 CAVER TEICHERT
            0003 01 DOBSON
            0004 01 DOBSON (JAPAN)
            0005 01 EHMET
            0006 01 FECKER TELESCOPE
            0007 01 HOELPER
            0008 01 JODMETER
            0009 01 FILTER OZONOMETER M-83
            0010 01 MAST
            0011 01 OXFORD
            0012 01 PAETZOLD
            0013 01 REGENER
            0014 01 RESERVED
            0015 01 VASSY FILTER OZONOMETER
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            0016 01 CARBON IODIDE
            0017 01 SURFACE OZONE BUBLLER
            0018 01 FILTER OZONOMETER M-124
            0019 01 ECC SONDE
            0127 01 MISSING VALUE
B02144 0008 0000 01 DIRECT SUN, ATTENUATOR #0
            0001 01 DIRECT SUN, ATTENUATOR #1
            0002 01 DIRECT SUN, ATTENUATOR #2
            0003 01 FOCUSSED MOON
            0004 01 FOCUSSED SUN
            0005 01 FOCUSSED SUN CORRECTED WITH ADJACENT SKY MEASUREMENTS
            0006 01 ZENITH SKY
            0015 01 MISSING VALUE
B02145 0009 0000 01 WAVELENGTH AD ORDINARY SETTING
            0001 01 WAVELENGTH BD ORDINARY SETTING
            0002 01 WAVELENGTH CD ORDINARY SETTING
            0003 01 WAVELENGTH CC' ORDINARY SETTING
            0004 01 WAVELENGTH AD FOCUSSING IMAGE
            0005 01 WAVELENGTH BD FOCUSSING IMAGE
            0006 01 WAVELENGTH CD FOCUSSING IMAGE
            0007 01 WAVELENGTH CC' FOCUSSING IMAGE
            0015 01 MISSING VALUE
B02146 0009 0000 01 ON DIRECT SUN
            0001 01 ON DIRECT MOON
            0002 01 ON BLUE ZENITH SKY
            0003 01 ON ZENITH CLOUD (UNIFORM STRATIFIED LAYER OF SMALL OPACITY)
            0004 01 ON ZENITH CLOUD (UNIFORM OR MODERATELY VARIABLE LAYER OF MEDIUM OPACITY)
            0005 01 ON ZENITH CLOUD (UNIFORM OR MODERATELY VARIABLE LAYER OF LARGE OPACITY)
            0006 01 ON ZENITH CLOUD (HIGHLY VARIABLE OPACITY, WITH OR WITOUT PRECIPITATION)
            0007 01 ON ZENITH CLOUD (FOG)
            0015 01 MISSING VALUE
B08001 0007 0001 01 SURFACE
            0002 01 STANDARD LEVEL
            0003 01 TROPOPAUSE LEVEL
            0004 01 MAXIMUM WIND LEVEL
            0005 01 SIGNIFICANT LEVEL, TEMPERATURE
            0006 01 SIGNIFICANT LEVEL, WIND
            0007 01 MISSING VALUE
B08002 0011 0000 02 OBSERVING RULES FOR BASE OF LOWEST CLOUD AND CLOUD TYPES OF
                    FM 12-IX EXT. SYNOP AND FM 13-IX EXT. SHIP APPLY
            0001 01 FIRST SIGNIFICANT CLOUD LAYER
            0002 01 SECOND SIGNIFICANT CLOUD LAYER
            0003 01 THIRD SIGNIFICANT CLOUD LAYER
            0004 01 CUMULONIMBUS LAYER
            0005 01 CEILING
            0006 01 CLOUD NOT DETECTED BELOW THE FOLLOWING HEIGHT(S)
            0007 01 LOW CLOUD
            0008 01 MIDDLE CLOUD
            0009 01 HIGH CLOUD
            0063 01 MISSING VALUE
B08003 0009 0000 01 SURFACE
            0001 01 BASE OF SATELLITE SOUNDING
            0002 01 CLOUD TOP
            0003 01 TROPOPAUSE
            0004 01 PRECIPITABLE WATER
            0005 01 SOUNDING RADIANCES
            0006 01 MEAN TEMPERATURES
            0007 01 OZON
            0063 01 MISSING VALUE
B08004 0005 0003 01 LEVEL FLIGHT, ROUTINE OBSERVATION (LVR)
            0004 01 LEVEL FLIGHT, HIGHEST WIND ENCOUNTERED (LVW)
            0005 01 ASCENDING (ASC)
            0006 01 DESCENDING(DES)
            0007 01 MISSING VALUE
B08005 0005 0000 01 RESERVED
            0001 01 STORM CENTRE
            0002 01 OUTER LIMIT OR EDGE OF STORM
            0003 01 LOCATION OF MAXIMUM WIND
            0015 01 MISSING VALUE
B08007 0005 0000 01 POINT
            0001 01 LINE
            0002 01 AREA
            0003 01 VOLUME
            0015 01 MISSING VALUE
B08011 0020 0000 01 QUASI-STATIONARY FRONT AT THE SURFACE
            0001 01 QUASI-STATIONARY FRONT ABOVE THE SURFACE
            0002 01 WARM FRONT AT THE SURFACE
            0003 01 WARM FRONT ABOVE THE SURFACE
            0004 01 COLD FRONT AT THE SURFACE
            0005 01 COLD FRONT ABOVE THE SURFACE
            0006 01 OCCLUSION
            0007 01 INSTABILITY LINE
            0008 01 INTERTROPICAL FRONT
            0009 01 CONVERGENCE LINE
            0010 01 JET STREAM
            0011 01 CLOUD CLEAR
            0012 01 CLOUD
            0013 01 TURBULENCE
            0014 01 STORM
            0015 01 AIRFRAME ICING
            0016 01 PHENOMENON
            0017 01 VOLCANO
            0020 01 SPECIAL CLOUDS
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            0063 01 MISSING VALUE
B08012 0004 0000 01 LAND
            0001 01 SEA
            0002 01 RESERVED
            0003 01 MISSING VALUE
B08013 0004 0000 01 night
            0001 01 DAY
            0002 01 RESERVED
            0003 01 MISSING VALUE
B08014 0010 0000 01 10-MINUTE MEAN VALUE - NORMAL VALUE
            0001 01 10-MINUTE MEAN VALUE - ABOVE THE UPPER LIMIT FOR ASSESSMENT OF RVR (P)
            0002 01 10-MINUTE MEAN VALUE - BELOW LOWER LIMIT FOR ASSESSMENT OF RVR (M)
            0003 01 ONE MINUTE MINIMUM VALUE - NORMAL VALUE
            0004 01 ONE MINUTE MINIMUM VALUE - ABOVE THE UPPER LIMIT FOR ASSESSMENT OF RVR (P)
            0005 01 ONE MINUTE MINIMUM VALUE - BELOW LOWER LIMIT FOR ASSESSMENT OF RVR (M)
            0006 01 ONE MINUTE MAXIMUM VALUE - NORMAL VALUE
            0007 01 ONE MINUTE MAXIMUM VALUE - ABOVE THE UPPER LIMIT FOR ASSESSMENT OF RVR (P)
            0008 01 ONE MINUTE MAXIMUM VALUE - BELOW LOWER LIMIT FOR ASSESSMENT OF RVR (M)
            0015 01 MISSING VALUE
B08016 0005 0000 01 NOSIG
            0001 01 BECMG
            0002 01 TEMPO
            0003 01 FM
            0007 01 MISSING VALUE
B08017 0004 0000 01 FM
            0001 01 TL
            0002 01 AT
            0003 01 MISSING VALUE
B08018 0005 0001 01 LAND IS PRESENT
            0002 01 SURFACE ICE MAP INDICATES ICE IS PRESENT
            0011 01 ICE MAP DATA NOT AVAILABLE
            0012 01 ATTENUATION MAP DATA NOT AVAILABLE
            0017 01 MISSING VALUE
B08021 0028 0000 01 RESERVED
            0001 01 TIME SERIES
            0002 01 TIME AVERAGED
            0003 01 ACCUMULATED
            0004 01 FORECAST
            0005 01 FORECAST TIME SERIES
            0006 01 FORECAST TIME AVERAGED
            0007 01 FORECAST ACCUMULATED
            0008 01 ENSEMBLE MEAN
            0009 01 ENSEMBLE MEAN TIME SERIES
            0010 01 ENSEMBLE MEAN TIME AVERAGED
            0011 01 ENSEMBLE MEAN ACCUMULATED
            0012 01 ENSEMBLE MEAN FORECAST
            0013 01 ENSEMBLE MEAN FORECAST TIME SERIES
            0014 01 ENSEMBLE MEAN FORECAST AVERAGED
            0015 01 ENSEMBLE MEAN FORECAST ACCUMULATED
            0016 01 ANALYSIS
            0017 01 START OF PHENOMENON
            0018 01 RADIOSONDE LAUNCH TIME
            0019 01 START OF ORBIT
            0020 01 END OF ORBIT
            0021 01 TIME OF ASCENDING NODE
            0022 01 TIME OF OCCURENCE OF WIND SHIFT
            0027 01 FIRST GUESS    --not wmo entry
            0028 01 START OF SCAN  --not wmo entry
            0029 01 END OF SCAN    --not wmo entry
            0031 01 MISSING VALUE
B08023 0009 0002 01 MAXIMUM VALUE
            0003 01 MINIMUM VALUE
            0004 01 MEAN VALUE
            0005 01 MEDIAN VALUE
            0006 01 MODAL VALUE
            0007 01 MEAN ABSOLUTE ERROR
            0009 01 BEST ESTIMATE OF STANDARD DEVIATION (N-1)
            0010 01 STANDARD DEVIATION
            0011 01 HARMONIC MEAN
            0012 01 ROOT MEAN SQUARE VECTOR ERROR
            0032 01 PROBABILITY OF GROSS ERROR
            0063 01 MISSING
B08024 0012 0002 01 OBSERVED MINUS MAXIMUM
            0003 01 OBSERVED MINUS MINIMUM
            0004 01 OBSERVED MINUS MEAN
            0005 01 OBSERVED MINUS MEDIAN
            0006 01 OBSERVED MINUS MODE
            0011 01 OBSERVED MINUS CLIMATOLOGY (ANOMALY)
            0012 01 OBSERVED MINUS ANALYZED VALUE
            0013 01 OBSERVED MINUS INITIALISED ANALYZED VALUE
            0014 01 OBSERVED MINUS FORECAST VALUE
            0021 01 OBSERVED MINUS INTERPOLATED VALUE
            0022 01 OBSERVED MINUS HYDROSTATICALLY CALCULATED VALUE
            0032 01 OBSERVED MINUS FIRST GUESS
            0033 01 OBSERVED MINUS ANALYSIS
            0034 01 OBSERVED MINUS INITIALIZED ANALYSIS
            0063 01 MISSING
B08025 0004 0000 01 RESERVED
            0001 01 LOCAL STANDARD TIME
            0005 01 TIME DIFFERENCE FROM EDGE OF PROCESSING SEGMENT
            0015 01 MISSING
B08051 0007 0001 01 PRESSURE
            0002 01 TEMPERATURE
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           0003 01 EXTREME TEMPERATURE
           0004 01 VAPOUR PRESSURE
           0005 01 PRECIPITATION
           0006 01 SUNSHINE DURATION
           0007 01 MISSING VALUE
B08052 0026 0000 02 MEAN WIND SPEED OVER 10-MINUTES PERIOD OBSERVED OR RECORDED
                 EQUAL TO OR MORE THAN 10 M/S
           0001 02 MEAN WIND SPEED OVER 10-MINUTES PERIOD OBSERVED OR RECORDED
                 EQUAL TO OR MORE THAN 20 M/S
           0002 02 MEAN WIND SPEED OVER 10-MINUTES PERIOD OBSERVED OR RECORDED
                 EQUAL TO OR MORE THAN 30 M/S
           0003 01 MAXIMUM TEMPERATURE LESS THAN 273.2 K
           0004 01 MAXIMUM TEMPERATURE EQUAL TO OR MORE THAN 298.2 K
           0005 01 MAXIMUM TEMPERATURE EQUAL TO OR MORE THAN 303.2 K
           0006 01 MAXIMUM TEMPERATURE EQUAL TO OR MORE THAN 308.2 K
           0007 01 MAXIMUM TEMPERATURE EQUAL TO OR MORE THAN 313.2 K
           0008 01 MINIMUM TEMPERATURE LESS THAN 273.2 K
           0009 01 MAXIMUM TEMPERATURE EQUAL TO OR MORE THAN 273.2 K
           0010 01 PRECIPITATION EQUAL TO OR MORE THAN   1.0 KG/M**2
           0011 01 PRECIPITATION EQUAL TO OR MORE THAN   5.0 KG/M**2
           0012 01 PRECIPITATION EQUAL TO OR MORE THAN  10.0 KG/M**2
           0013 01 PRECIPITATION EQUAL TO OR MORE THAN  50.0 KG/M**2
           0014 01 PRECIPITATION EQUAL TO OR MORE THAN 100.0 KG/M**2
           0015 01 PRECIPITATION EQUAL TO OR MORE THAN 150.0 KG/M**2
           0016 01 SNOW DEPTH MORE THAN 0.0 M
           0017 01 SNOW DEPTH MORE THAN 0.01 M
           0018 01 SNOW DEPTH MORE THAN 0.10 M
           0019 01 SNOW DEPTH MORE THAN 0.50 M
           0020 01 HORIZONTAL VISIBILITY LESS THAN   50 M
           0021 01 HORIZONTAL VISIBILITY LESS THAN  100 M
           0022 01 HORIZONTAL VISIBILITY LESS THAN 1000 M
           0023 01 HAIL
           0024 01 THUNDERSTORM
           0031 01 MISSING VALUE
B08053 0004 0000 01 VALUE OCCURED ON ONLY ONE DAY IN THE MONTH
           0001 01 VALUE OCCURED ON MORE THAN ONE DAY IN THE MONTH
           0002 01 RESERVED
           0003 01 MISSING VALUE
B08060 0006 0000 01 RESERVED
           0001 01 RANGE
           0002 01 AZIMUTH
           0003 01 HORIZONTAL
           0004 01 VERTICAL
           0015 01 MISSING VALUE
B10063 0010 0000 02 INCREASING, THEN DECREASING: ATMOSPHERIC PRESURE THE SAME OR
                  HIGHER THAN 3 HOURS AGO (OR 24 HOURS AGO )
           0001 01 INCREASING, THEN STEADY; OR INCREASING; THEN MORE SLOWLY
           0002 01 INCREASING (STEADILY OR UNSTEADILY )
           0003 01 DECREASING OR STEADY, THEN INCREASING; RAPIDLY
           0004 02 STEADY; ATMOSPHERIC PRESSURE THE SAME AS 3 HOURS AGO (OR 24
                 HOURS)
           0005 02 DECREASING; THEN INCREASING; ATMOSPHERIC PRESSURE THE SAME O
                 R LOWER THAN 3 HOURS AGO
           0006 02 DECREASING, THEN STEADY; OR DECREASING, DECREASING MORE SLOW
                 LY
           0007 01 DECREASING (STEADILY OR UNSTEADELY )
           0008 02 STEADY OR INCREASING, THEN DECREASING; OR DECREASING, THEN
                 DECREASING MORE RAPIDLY
           0015 01 MISSING
B11031 0009 0000 01 NIL           IN CLOUD
           0001 01 SLIGHT        IN CLOUD
           0002 01 MODERATE      IN CLOUD
           0003 01 SEVERE        IN CLOUD
           0004 01 NIL           IN CLEAR AIR
           0005 01 SLIGHT        IN CLEAR AIR
           0006 01 MODERATE      IN CLEAR AIR
           0007 01 SEVERE        IN CLEAR AIR
           0015 01 MISSING VALUE
B13038 0004 0000 01 NOT SUPERADIABATIC
           0001 01 SUPERADIABATIC
           0002 01 RESERVED
           0003 01 MISSING VALUE
B13039 0003 0000 01 SEA ICE
           0001 01 SNOW ON LAND
           0007 01 MISSING VALUE
B13041 0010 0001 01 A
           0002 01 A-B
           0003 01 B
           0004 01 B-C
           0005 01 C
           0006 01 D
           0007 01 E
           0008 01 F
           0009 01 G
           0015 01 MISSING VALUE
B13051 0008 0000 01 SMALLER THAN ANY VALUE IN THE 30 YEARS PERIOD
           0001 01 IN THE FIRST QUINTILE
           0002 01 IN THE SECOND QUINTILE
           0003 01 IN THE THIRD QUINTILE
           0004 01 IN THE FOURTH QUINTILE
           0005 01 IN THE FIFTH QUINTILE
           0006 01 GREATER THAN ANY VALUE IN THE 30 YEAR PERIOD
           0015 01 MISSING VALUE
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B19001 0007 0000 01 DEPRESSION OR LOW (EXTRATROPICAL)
            0001 01 TROPICAL DEPRESSION
            0002 01 TROPICAL STORM
            0003 01 SEVERE TROPICAL STORM
            0004 01 TYPHOON
            0010 01 DUST/SANDSTORM
            0063 01 MISSING VALUE
B19008 0005 0000 01 reserved
            0001 01 SHALLOW (TOP OF CIRCULATION BELOW 700-HPA LEVEL
            0002 01 MEDIUM(TOP BETWEEN 700-HPA AND 400-HPA)
            0003 01 DEEP(TOP ABOVE 400-HPA LEVEL
            0007 01 MISSING VALUE
B20003 0250 0000 01 CLOUD DEVELOPMENT NOT OBSERVED OR NOT OBSERVABLE
            0001 01 CLOUDS GENERALLY DISSOLVING OR BECOMING LESS DEVELOPED
            0002 01 STATE OF SKY ON THE WHOLE UNCHANGED
            0003 01 CLOUDS GENERALLY FORMING OR DEVELOPING
            0004 02 VISIBILITY REDUCED BY SMOKE, E.G. VELDT OR FOREST FIRES, IN
                    DUSTRIAL SMOKE OR VOLCANIC ASHES
            0005 01 HAZE
            0006 02 WIDESPREAD DUST IN SUSPENSION IN THE AIR, NOT RAISED BY WIND
                     AT OR NEAR THE STATION AT THE TIME OF OBSERVATION
            0007 04 DUST OR SEND RAISED BY WIND AT OR NEAR THE STATION AT THE TI
                    ME OF OBSERVATION, BUT NO WELL-DEVELOPED DUST WHRIL(S) OR SA
                    ND WHRIL(S), AND NO DUSTSTORM OR SANDSTORM SEEN; OR, IN THE
                    CASE OF SHIPS, BLOWING SPRAY AT THE STATION
            0008 03 WELL-DEVELOPED DUST WHRIL(S) OR SAND WHRILS SEEN AT OR NEAR
                    THE STATION DURING THE PRECEDING HOUR OR AT THE SAME TIME OF
                     OBSERVATION, BUT NO DUSTSTORM OR SANDSTORM
            0009 02 DUSTSTORM OR SANDSTORM WITHIN SIGHT AT THE TIME OF OBSERVATI
                    ON, OR AT THE STATION DURING THE PRECEDING HOR
            0010 01 MIST
            0011 02 PACHES SHALLOW FOG OR ICE AT THE STATION, WHETHER ON LAND OR
                     SEA, NOT DEEPER THAN 2 METRES ON LAND OR 10 METRES AT SEA
            0012 03 MORE OR LESS CONTINUOUS SHALLOW FOG OR ICE AT THE STATION,
                    WHETHER ON LAND OR SEA, NOT DEEPER THAN 2 METRES ON LAND OR
                    10 METRES AT SEA
            0013 01 LIGHTNING VISIBLE, NO THUNDER HEARD
            0014 02 PRECIPITATION WITHIN SIGHT, NOT REACHING THE GROUND OR THE
                    SURFACE OF THE SEA
            0015 03 PRECIPITATION WITHIN SIGHT, REACHING THE GROUND OR THE SURFA
                    CE OF THE SEA, BUT DISTANT, I.E. ESTIMATED TO BE MORE THAN
                    5 KM FROM THE STATION
            0016 02 PRECIPITATION WITHIN SIGHT, REACHING THE GROUND OR THE SURFA
                    CE OF THE SEA, NEAR TO, BUT NOT AT THE STATION
            0017 02 THUNDERSTORM, BUT NO PRECIPITATION AT THE TIME OF OBSERVATIO
                    N
            0018 02 SQUALLS AT OR WITHIN SIGHT OF THE STATION DURING THE PRECEDI
                    NG HOUR OR AT THE TIME OF OBSERVATION
            0019 02 FUNNEL CLOUD(S) AT OR WITHIN SIGHT OF THE STATION DURING THE
                     PRECEDING HOUR OR AT THE TIME OF OBSERVATION
            0020 03 DRIZZEL (NOT FREEZING) OR SNOW GRAINS NOT FALLING AS SHOWERS
                    ; DURING THE PRECEDING HOUR BUT NOT  AT THE TIME OF OBSERVAT
                    IONS
            0021 02 RAIN (NOT FREEZING) NOT FALLING AS SHOWER(S); DURING THE PRE
                    ECEDING HOUR BUT NOT AT THE TIME OF OBSERVATION
            0022 02 SNOW NOT FALLING AS SHOWER(S); DURING THE PRECEDING HOUR BUT
                     NOT AT THE TIME OF OBSERVATION
            0023 02 RAIN AND SNOW OR ICE PELLETS NOT FALLING AS SHOWER(S); DURIN
                    G THE PRECEDING HOUR BUT NOT AT THE TIME OF OBSERVATION
            0024 02 FREEZING DRIZZEL OR FREEZING RAIN NOT FALLING AS SHOWER(S);
                    DURING THE PRECEDING HOUR BUT NOT AT THE TIME OF OBSERVATION
            0025 02 SHOWER(S) OF RAIN; DURING THE PRECEDING HOUR BUT NOT AT THE
                    TIME OF OBSERVATION
            0026 02 SHOWER(S) OF SNOW, OR OF RAIN AND SNOW; DURING THE PRECEDING
                     HOUR BUT NOT AT THE TIME OF OBSERVATION
            0027 02 SHOWER(S) OF HAIL, OR OF RAIN AND HAIL; DURING THE PRECEDING
                     HOUR BUT NOT AT THE TIME OF OBSERVATION
            0028 02 FOG OR ICE FOG; DURING THE PRECEDING HOUR BUT NOT AT THE TIM
                    E OF OBSERVATION
            0029 02 THUNDERSTORM (WITH OR WITHOUT PRECIPITATION); DURING THE PRE
                    CEDING HOUR BUT NOT AT THE TIME OF OBSERVATION
            0030 02 SLIGHT OR MODERATE DUSTSTORM OR SANDSTORM HAS DECREASED DURI
                    NG THE PRECEDING HOURS
            0031 02 SLIGHT OR MODERATE DUSTSTORM OR SANDSTORM NO APPRECIABLE CHA
                    NGE DURING THE PRECEDING HOUR
            0032 02 SLIGHT OR MODERATE DUSTSTORM OR SANDSTORM HAS BEGUN OR HAS I
                    NCEASED DURING THE PRECEDING HOUR
            0033 02 SEVERE DUSTSTORM OR SANDSTORM  HAS DECREASED DURING THE PREC
                    EDING HOURS
            0034 02 SEVERE DUSTSTORM OR SANDSTORM NO APPRECIABLE CHANGE DURING T
                    HE PRECEDING HOUR
            0035 02 SEVERE DUSTSTORM OR SANDSTORM HAS BEGUN OR HAS INCREASED DUR
                    ING THE PRECEDING HOUR
            0036 02 SLIGHT OR MODERATE DRIFTING SNOW GENERALLY LOW (BELOW EYE LE
                    VEL)
            0037 01 HEAVY DRIFTING SNOW  GENERALY LOW (BELOW EYE LEVEL)
            0038 02 SLIGHT OR MODERATE BLOWING SNOW GENERALLY HIGH (ABOVE EYE LE
                    VEL)
            0039 01 HEAVY BLOWING SNOW  GENERALY HIGH (ABOVE EYE LEVEL)
            0040 03 FOG OR ICE FOG AT A DISTANCE AT THE TIME OF OBSERVATION, BUT
                     NOT AT THE STATION DURING THE PRECEDING HOUR, THE FOG OR IC
                    E FOG EXTENDING TO A LEVEL ABOVE THAT OF THE OBSERVER
            0041 01 FOG OR ICE FOG IN PATCHES
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0042 02 FOG OR ICE FOG, SKY VISIBLE,HAS BECOME THINNER DURING THE PR
        ECEDING HOUR
0043 02 FOG OR ICE FOG, SKY INVISIBLE,HAS BECOME THINNER DURING THE
        PRECEDING HOUR
0044 02 FOG OR ICE FOG, SKY   VISIBLE,NO APPRECIABLE CHANGE DURING T
        HE PRECEDING HOUR
0045 02 FOG OR ICE FOG, SKY INVISIBLE,NO APPRECIABLE CHANGE DURING T
        HE PRECEDING HOUR
0046 02 FOG OR ICE FOG, SKY   VISIBLE,HAS BEGUN OR HAS BECOME THICKE
        R DURING THE PRECEDING HOUR
0047 02 FOG OR ICE FOG, SKY INVISIBLE,HAS BEGUN OR HAS BECOME THICKE
        R DURING THE PRECEDING HOUR
0048 01 FOG, DEPOSITING RIME, SKY VISIBLE
0049 01 FOG, DEPOSITING RIME, SKY INVISIBLE
0050 02 DRIZZLE, NOT FREEZING, INTERMITTENT;SLIGHT AT TIME OF OBSERV
        ATION
0051 02 DRIZZLE, NOT FREEZING, CONTINUOUS  ;SLIGHT AT TIME OF OBSERV
        ATION
0052 02 DRIZZLE, NOT FREEZING, INTERMITTENT;MODERATE AT TIME OF OBSE
        RVATION
0053 02 DRIZZLE, NOT FREEZING, CONTINUOUS  ;MODERATE AT TIME OF OBSE
        RVATION
0054 02 DRIZZLE, NOT FREEZING, INTERMITTENT;HEAVY (DENSE) AT THE TIM
        E OF OBSERVATION
0055 02 DRIZZLE, NOT FREEZING, CONTINUOUS  ;HEAVY (DENSE) AT THE TIM
        E OF OBSERVATION
0056 01 DRIZZLE, FREEZING, SLIGHT
0057 01 DRIZZLE, FREEZING, MODERATE OR HEAVY (DENSE)
0058 01 DRIZZLE AND RAIN, SLIGHT
0059 01 DRIZZLE AND RAIN, MODERATE OR HEAVY
0060 01 RAIN,NOT FREEZING,INTERMITTENT;SLIGHT AT TIME OF OBSERVATION
0061 01 RAIN,NOT FREEZING,CONTINUOUS  ;SLIGHT AT TIME OF OBSERVATION
0062 02 RAIN,NOT FREEZING,INTERMITTENT;MODERATE AT TIME OF OBSERVATI
        ON
0063 02 RAIN,NOT FREEZING,CONTINUOUS  ;MODERATE AT TIME OF OBSERVATI
        ON
0064 02 RAIN, NOT FREEZING, INTERMITTENT;HEAVY AT TIME OF OBSERVATIO
        ON
0065 01 RAIN, NOT FREEZING, CONTINUOUS;HEAVY AT TIME OF OBSERVATION
0066 01 RAIN, FREEZING, SLIGHT
0067 01 RAIN, FREEZING, MODERATE OR HEAVY
0068 01 RAIN OR DRIZZLE AND SNOW, LIGHT
0069 01 RAIN OR DRIZZLE AND SNOW, MODERATE OR HEAVY
0070 02 INTERMITTENT FALL OF SNOWFLAKES, SLIGHT AT TIME OF OBSERVATI
        ON
0071 02 CONTINUOUS   FALL OF SNOWFLAKES, SLIGHT AT TIME OF OBSERVATI
        ON
0072 02 INTERMITTENT FALL OF SNOWFLAKES, MODERATE AT TIME OF OBSERVA
        TION
0073 02 CONTINUOUS   FALL OF SNOWFLAKES, MODERATE AT TIME OF OBSERVA
        TION
0074 02 INTERMITTENT FALL OF SNOWFLAKES, HEAVY AT TIME OF OBSERVATIO
        ONS
0075 02 CONTINUOUS   FALL OF SNOWFLAKES, HEAVY AT TIME OF OBSERVATIO
        ONS
0076 01 DIAMOND DUST (WITH OR WITHOUT FOG)
0077 01 SNOW GRAINS (WITH OR WITHOUT FOG)
0078 01 ISOLATED STAR-LIKE SNOW CRYSTALS (WITH OR WITHOUT FOG)
0079 01 ICE PELLETS
0080 01 RAIN SHOWER(S), SLIGHT
0081 01 RAIN SHOWER(S), MODERATE OR HEAVY
0082 01 RAIN SHOWER(S), VIOLENT
0083 01 SHOWER(S) OF RAIN AND SNOW MIXED, SLIGHT
0084 01 SHOWER(S) OF RAIN AND SNOW MIXED, MODERATE OR HEAVY
0085 01 SNOW SHOWER(S), SLIGHT
0086 01 SNOW SHOWER(S), MODERATE OR HEAVY
0087 02 SHOWER(S) OF SNOW PELLETS OR SMALL HAIL, WITH OR WITHOUT RAI
        N OR RAIN AND SNOW MIXED, SLIGHT
0088 02 SHOWER(S) OF SNOW PELLETS OR SMALL HAIL, WITH OR WITHOUT RAI
        N OR RAIN AND SNOW MIXED, MODERATE OR HEAVY
0089 02 SHOWER(S) OF HAIL, WITH OR WITHOUT RAIN OR RAIN AND SNOW MIX
        ED, NOT ASSOCIATED WITH THUNDER, SLIGHT
0090 02 SHOWER(S) OF HAIL, WITH OR WITHOUT RAIN OR RAIN AND SNOW MIX
        ED, NOT ASSOCIATED WITH THUNDER, MODERATE OR HEAVY
0091 02 SLIGHT RAIN AT TIME OF OBSERVATION, THUNDERSTORM DURING THE
        PRECEDING HOUR BUT NOT AT TIME OF OBSERVATION
0092 02 MODERATE OR HEAVY RAIN AT TIME OF OBSERVATION, THUNDERSTORM
        DURING THE PRECEDING HOUR BUT NOT AT TIME OF OBSERVATION
0093 03 SLIGHT SNOW, OR RAIN AND SNOW MIXED OR HAIL AT TIME OF OBSER
        VATION, THUNDERSTORM DURING THE PRECEDING HOUR BUT NOT AT TI
        ME OF OBSERVATION
0094 03 MODERATE OR HEAVY SNOW, OR RAIN AND SNOW MIXED OR HAIL AT TI
        ME OF OBSERVATION, THUNDERSTORM DURING PRECEDING HOUR BUT NO
        T AT TIME OF OBSERVATION
0095 03 THUNDERSTORM, SLIGHT OR MODERATE, WITHOUT HAIL, BUT WITH RAI
        N AND/OR SNOW AT TIME OF OBSERVATION, THUNDERSTORM DURING TH
        E PRECEDING HOUR BUT NOT AT TIME OF OBSERVATION
0096 02 THUNDERSTORM, SLIGHT OR MODERATE,WITH HAIL AT TIME OF OBSERV
        ATION, THUNDERSTORM AT TIME OF OBSERVATION
0097 02 THUNDERSTORM, HEAVY, WITHOUT HAIL BUT WITH RAIN AND/OR SNOW
        AT TIME OF OBSERVATION, THUNDERSTORM AT TIME OF OBSERVATION
0098 02 THUNDERSTORM COMBINED WITH DUSTSTORM OR SANDSTORM AT TIME OF
         OBSERVATION, THUNDERSTORM AT TIME OF OBSERVATION
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0099 02 THUNDERSTORM, HEAVY, WITH HAIL AT TIME OF OBSERVATION, THUND
        ERSTORM AT TIME OF OBSERVATION
0100 01 NO SIGNIFICANT WEATHER OBSERVED
0101 02 CLOUDS GENERALLY DISSOLVING OR BECOMING LESS DEVELOPED DURIN
        G THE PAST HOUR
0102 01 STATE OF SKY ON THE WHOLE UNCHANGED DURING THE PAST HOUR
0103 01 CLOUDS GENERALLY FORMING OR DEVELOPING DURING THE PAST HOUR
0104 02 HAZE OR SMOKE, OR DUST IN SUSPENSION IN THE AIR, VISIBILITY
        EQUAL TO, OR GREATER THAN 1KM
0105 02 HAZE OR SMOKE, OR DUST IN SUSPENSION IN THE AIR, VISIBILITY
        LESS THAN 1KM
0110 01 MIST
0111 01 DIAMOND DUST
0112 01 DISTANT LIGHTING
0118 01 SQUALLS
0120 01 FOG
0121 01 PRECIPITATION
0122 01 DRIZZLE (NOT FREEZING) OR SNOW GRAINS
0123 01 RAIN (NOT FREEZING)
0124 01 SNOW
0125 01 FREEZING DRIZZLE OR FREEZING RAIN
0126 01 THUNDERSTORM (WITH OR WITHOUT PRECIPITATION)
0127 01 BLOWING OR DRIFTING SNOW OR SAND
0128 02 BLOWING OR DRIFTING SNOW OR SAND, VISIBILITY EQUAL TO, OR GR
        ATER THAN, 1KM
0129 01 BLOWING OR DRIFTING SNOW OR SAND, VISIBILITY LESS THAN 1 KM
0130 01 FOG
0131 01 FOG OR ICE FOG, IN PATCHES
0132 01 FOG OR ICE FOG, HAS BECOME THINNER DURING PAST HOUR
0133 01 FOG OR ICE FOG, NO APPRECIABLE CHANGE DURING PAST HOUR
0134 01 FOG OR ICE FOG, HAS BECUNOR BECOME THICKER DURING PAST HOUR
0135 01 FOG, DEPOSITION RIME
0140 01 PRECIPITATION
0141 01 PRECIPITATION SLIGHT OR MODERATE
0142 01 PRECIPITATION, HEAVY
0143 01 LIQUID PRECIPITATION, SLIGHT OR MODERATE
0144 01 LIQUID PRECIPITATION, HEAVY
0145 01 SOLID PRECIPITATION, SLIGHT OR MODERATE
0146 01 SOLID PRECIPITATION, HEAVY
0147 01 FREEZING PRECIPITATION, SLIGHT OR MODERATE
0148 01 FREEZING PRECIPITATION, HEAVY
0150 01 DRIZZLE
0151 01 DRIZZLE, NOT FREEZING, SLIGHT
0152 01 DRIZZLE, NOT FREEZING, MODERATE
0153 01 DRIZZLE, NOT FREEZING, HEAVY
0154 01 DRIZZLE, FREEZING, SLIGHT
0155 01 DRIZZLE, FREEZING, MODERATE
0156 01 DRIZZLE, FREEZING, HEAVY
0157 01 DRIZZLE AND RAIN, SLIGHT
0158 01 DRIZZLE AND RAIN, MODERATE OR HEAVY
0160 01 RAIN
0161 01 RAIN, NOT FREEZING, SLIGHT
0162 01 RAIN, NOT FREEZING, MODERATE
0163 01 RAIN, NOT FREEZING, HEAVY
0164 01 RAIN, FREEZING, SLIGHT
0165 01 RAIN, FREEZING, MODERATE
0166 01 RAIN, FREEZING, HEAVY
0167 01 RAIN (OR DRIZZLE) AND SNOW, SLIGHT
0168 01 RAIN (OR DRIZZLE) AND SNOW, MODERATE AND HEAVY
0170 01 SNOW
0171 01 SNOW, SLIGHT
0172 01 SNOW, MODERATE
0173 01 SNOW, HEAVY
0174 01 ICE PELLETS, SLIGHT
0175 01 ICE PELLETS, MODERATE
0176 01 ICE PELLETS, HEAVY
0180 01 SHOWER(S) OR INTERMITTENT PRECIPITATION
0181 01 RAIN SHOWER(S) OR INTERMITTENT RAIN, SLIGHT
0182 01 RAIN SHOWER(S) OR INTERMITTENT RAIN, MODERATE
0183 01 RAIN SHOWER(S) OR INTERMITTENT RAIN, HEAVY
0184 01 RAIN SHOWER(S) OR INTERMITTENT RAIN, VIOLENT
0185 01 SNOW SHOWER(S) OR INTERMITTENT SNOW, SLIGHT
0186 01 SNOW SHOWER(S) OR INTERMITTENT SNOW, MODERATE
0187 01 SNOW SHOWER(S) OR INTERMITTENT SNOW, HEAVY
0190 01 THUNDERSTORM
0191 01 THUNDERSTORM, SLIGHT OR MODERATE, WITH NO PRECIPITATION
0192 02 THUNDERSTORM, SLIGHT OR MODERATE, WITH RAIN SHOWERS AND/OR S
        NOW SHOWERS
0193 01 THUNDERSTORM, SLIGHT OR MODERATE, WITH HAIL
0194 01 THUNDERSTORM, HEAVY, WITH NO PRECIPITATION
0195 01 THUNDERSTORM, HEAVY, WITH RAIN SHOWERS AND/OR SNOW SHOWERS
0196 01 THUNDERSTORM, HEAVY, WITH HAIL
0204 01 VOLCANIC ASH SUSPENDED IN THE AIR ALOFT
0206 01 THICK DUST HAZE, VISIBILITY LESS THAN 1 KM
0207 01 BLOWING SPRAY AT THE STATION
0208 01 DRIFTING DUST (SAND)
0209 01 WALL OF DUST OR SAND IN DISTANCE (LIKE HABOOB)
0210 01 SNOW HAZE
0211 01 WHITEOUT
0213 01 LIGHTING, CLOUD TO SURFACE
0217 01 DRY THUNDERSTORM
0219 02 TORNADO CLOUD (DESTRUCTIVE AT OR WITHIN SIGHT OF THE STATION
        DURING PRECEDING HOUR OR AT THE TIME OF OBSERVATION
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          0220 01 DEPOSITION OF VOLCANIC ASH
          0221 01 DEPOSITION OF DUST OR SAND
          0222 01 DEPOSITION OF DEW
          0223 01 DEPOSITION OF WET SNOW
          0224 01 DEPOSITION OF SOFT RIME
          0225 01 DEPOSITION OF HARD RIME
          0226 01 DEPOSITION OF HOAR FROST
          0227 01 DEPOSITION OF GLAZE
          0228 01 DEPOSITION OF ICE CRUST (ICE SLICK)
          0230 01 DUSTSTORM OR SANDSTORM WITH TEMPERATURE BELOW 0 C DEGREES
          0239 02 BLOWING SNOW, IMPOSSIBLE TO DETERMINE WHETHER SNOW IS FALLIN
                  G OR NOT
          0241 01 FOG ON SEA
          0242 01 FOG IN VALLEYS
          0243 01 ARCTIC OR ANTARCTIC SEA SMOKE
          0244 01 STEAM FOG (SEA,LAKE OR RIVER)
          0245 01 STEAM FOG (LAND)
          0246 01 FOG OVER ICE OR SNOW COVER
          0247 01 DENCE FOG VISIBILITY 60-90 M
          0248 01 DENCE FOG VISIBILITY 30-60 M
          0249 01 DENCE FOG VISIBILITY LESS THAN 30 M
          0250 01 DRIZZLE, RATE OF FALL  LESS THAN 0.10 MM/H
          0251 01 DRIZZLE, RATE OF FALL   0.10 -  .19  MM/H
          0252 01 DRIZZLE, RATE OF FALL   0.20 -  .39  MM/H
          0253 01 DRIZZLE, RATE OF FALL   0.40 -  .79  MM/H
          0254 01 DRIZZLE, RATE OF FALL   0.80 - 1.59  MM/H
          0255 01 DRIZZLE, RATE OF FALL   1.60 - 3.19  MM/H
          0256 01 DRIZZLE, RATE OF FALL   3.20 - 6.39  MM/H
          0257 01 DRIZZLE, RATE OF FALL   6.40 MM/H  OR MORE
          0259 01 DRIZZLE AND SNOW
          0260 01 RAIN, RATE OF FALL  LESS THAN 1.0 MM/H
          0261 01 RAIN, RATE OF FALL   1.0  -  1.9   MM/H
          0262 01 RAIN, RATE OF FALL   2.0  -  3.9   MM/H
          0263 01 RAIN, RATE OF FALL   4.0  -  7.9   MM/H
          0264 01 RAIN, RATE OF FALL   8.0  - 15.9   MM/H
          0265 01 RAIN, RATE OF FALL  16.0  - 31.9   MM/H
          0266 01 RAIN, RATE OF FALL  32.0  - 63.9   MM/H
          0267 01 RAIN, RATE OF FALL  64.0  MM/H  OR MORE
          0270 01 SNOW, RATE OF FALL  LESS THAN 1.0 CM/H
          0271 01 SNOW, RATE OF FALL   1.0  -  1.9   CM/H
          0272 01 SNOW, RATE OF FALL   2.0  -  3.9   CM/H
          0273 01 SNOW, RATE OF FALL   4.0  -  7.9   CM/H
          0274 01 SNOW, RATE OF FALL   8.0  - 15.9   CM/H
          0275 01 SNOW, RATE OF FALL  16.0  - 31.9   CM/H
          0276 01 SNOW, RATE OF FALL  32.0  - 63.9   CM/H
          0277 01 SNOW, RATE OF FALL  64.0  CM/H  OR MORE
          0278 01 SNOW OR ICE CRISTAL PRECIPITATION FROM A CLEAR SKY
          0279 01 WET SNOW, FREEZING ON CONTACT
          0280 01 PRECIPITATION OF RAIN (WW= 87-99)
          0281 01 PRECIPITATION OF RAIN,FREEZING (WW= 80-82)
          0282 01 PRECIPITATION OF RAIN AND SNOW MIXED
          0283 01 PRECIPITATION OF SNOW
          0284 01 PRECIPITATION OF SNOW PELLETS OR SMALL HAIL
          0285 01 PRECIPITATION OF SNOW PELLETS OR SMALL HAIL, WITH RAIN
          0286 02 PRECIPITATION OF SNOW PELLETS OR SMALL HAIL, WITH RAIN AND S
                  NOW MIXED
          0287 01 PRECIPITATION OF SNOW PELLETS OR SMALL HAIL, WITH SNOW
          0288 01 PRECIPITATION OF HAIL
          0289 01 PRECIPITATION OF HAIL, WITH RAIN
          0290 01 PRECIPITATION OF HAIL, WITH RAIN AND SNOW MIXED
          0291 01 PRECIPITATION OF HAIL, WITH SNOW
          0292 01 SHOWER(S) OR THUNDERSTORM OVER SEA
          0293 01 SHOWER(S) OR THUNDERSTORM OVER MOUNTAINS
          0508 02 NO SIGNIFICANT PHENOMENA TO REPORT, PRESENT AND PAST WEATHER
                   OMITTED
          0509 02 NOT OBSERVED, NO DATA AVAILABLE, PRESENT AND PAST WEATHER OM
                  ITTED
          0510 01 PRESENT AND PAST WEATHER MISSING, BUT EXPECTED
          0511 01 MISSING VALUE
B20004 0021 0000 02 CLOUD COVERING 1/2 OR LESS OF THE SKY THROUGHOUT THE APPROPP
                  RIATE PERIOD
          0001 03 CLOUD COVERING MORE THAN 1/2 OF THE SKY DURING PART OF THE A
                  PPROPRIATE PERIOD AND COVERING 1/2 OR LESS DURING PART OF TH
                  E PERIOD
          0002 02 CLOUD COVERING MORE THAN 1/2 OF THE SKY THROUGHOUT THE APPRP
                  PRIATE PERIOD
          0003 01 SANSTORM, DUSTSTORM OR BLOWING SNOW
          0004 01 FOG OR ICE OR THICK HAZE
          0005 01 DRIZZLE
          0006 01 RAIN
          0007 01 SNOW, OR RAIN AND SNOW MIXED
          0008 01 SHOWER(S)
          0009 01 THUNDERSTORM(S) WITH OR WITHOUT PRECIPITATION
          0010 01 NO SIGNIFICANT WEATHER OBSERVED
          0011 01 VISIBILITY REDUCED
          0012 01 BLOWING PHENOMENA, VISIBILITY REDUCED
          0013 01 FOG
          0014 01 PRECIPITATION
          0015 01 DRIZZLE
          0016 01 RAIN
          0017 01 SNOW OR ICE PELLETS
          0018 01 SHOWERS OR INTERMITTENT PRECIPITATION
          0019 01 THUNDERSTORM
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            0031 01 MISSING VALUE
B20005 0021 0000 02 CLOUD COVERING 1/2 OR LESS OF THE SKY THROUGHOUT THE APPROPP
                    RIATE PERIOD
            0001 03 CLOUD COVERING MORE THAN 1/2 OF THE SKY DURING PART OF THE A
                    PPROPRIATE PERIOD AND COVERING 1/2 OR LESS DURING PART OF TH
                    E PERIOD
            0002 02 CLOUD COVERING MORE THAN 1/2 OF THE SKY THROUGHOUT THE APPRP
                    PRIATE PERIOD
            0003 01 SANSTORM, DUSTSTORM OR BLOWING SNOW
            0004 01 FOG OR ICE OR THICK HAZE
            0005 01 DRIZZLE
            0006 01 RAIN
            0007 01 SNOW, OR RAIN AND SNOW MIXED
            0008 01 SHOWER(S)
            0009 01 THUNDERSTORM(S) WITH OR WITHOUT PRECIPITATION
            0010 01 NO SIGNIFICANT WEATHER OBSERVED
            0011 01 VISIBILITY REDUCED
            0012 01 BLOWING PHENOMENA, VISIBILITY REDUCED
            0013 01 FOG
            0014 01 PRECIPITATION
            0015 01 DRIZZLE
            0016 01 RAIN
            0017 01 SNOW OR ICE PELLETS
            0018 01 SHOWERS OR INTERMITTENT PRECIPITATION
            0019 01 THUNDERSTORM
            0031 01 MISSING VALUE
B20009 0006 0000 01 reserved
            0001 01 NSC MIL SIGNIFICANT CLOUD
            0002 01 CAVOK
            0003 01 SKC SKY CLEAR
            0004 01 NSW NIL SIGNIFICANT WEATHER
            0015 01 MISSING VALUE
B20011 0011 0000 01 0                              0
            0001 01 1 OKTA OR LESS, BUT NOT ZERO   1/10 OR LESS, BUT NOT ZERO
            0002 01 2 OKTAS                        2/10 - 3/10
            0003 01 3 OKTAS                        4/10
            0004 01 4 OKTAS                        5/10
            0005 01 5 OKTAS                        6/10
            0006 01 6 OKTAS                        7/10 - 8/10
            0007 01 7 OKTAS OR MORE,BUT NOT 8 OKTAS9/10 OR MORE, BUT NOT 10/10
            0008 01 8 OKTAS                        10/10
            0009 01 SKY OBSCURED BY FOG AND OR OTHER METEOROLOGICAL PHENOMENA
            0015 02 CLOUD COVE IS INDISCERNIBLE FOR REASONS OTHER THAN FOG OR OT
                    HER METEOROLOGICAL PHENOMENA, OR OBSERVATION IS NOT MADE
B20012 0045 0000 01 CIRRUS (CI)...............CI
            0001 01 CIRROCUMULUS (CC).........CC
            0002 01 CIRROSTRATUS (CS).........CS
            0003 01 ALTOCUMULUS  (AC).........AC
            0004 01 ALTOSTRATUS  (AS).........AS
            0005 01 NIMBOSTRATUS (NS).........NS
            0006 01 STRATOCUMULUS(SC).........SC
            0007 01 STRATUS      (ST).........ST
            0008 01 CUMULUS      (CU).........CU
            0009 01 CUMULONIMBUS (CB).........CB
            0010 01 NO CH CLOUDS
            0011 02 CIRRUS FIBRATUS, SOMETIMES UNCINUS, NOT PROGRESSIVELY INADIN
                    G THE SKY
            0012 04 CIRRUS SPISSATUS, IN PATCHES OR ENTANGLED SHEAVES, WHICH USU
                    ALLY DO NOT INCREASE AND SOMETIMES SEEM TO BE THE REMAINS OF
                     THE UPPER PART OF A CUMULONIMBUS; OR CIRRUS CASTELLANUS OR
                    FLOCCUS
            0013 01 CIRRUS SPISSATUS CUMULONIMBOGENITUS
            0014 02 CIRRUS UNCINUS OR FIBRATUS,OR BOTH, PROGRESSIVELY INVADING T
                    HE SKY ; THEY GENERALLY THICKEN AS A WHOLE
            0015 04 CIRRUS (OFTEN IN BANDS) AND CIRROSTRATUS, OR CIRROSTRATUS AL
                    ONE, PROGRESSIVELY INVADING THE SKY; THEY GENERALLY THICKEN
                    ASA WHOLE, BUT THE CONTINUOUS VEIL DOES NOT REACH 45 DEGREES
                     ABOVE THE HORIZON
            0016 05 CIRRUS (OFTEN IN BANDS) AND CIRROSTRATUS, OR CIRROSTRATUS AL
                    ONE, PROGRESSIVELY INVADING THE SKY; THEY GENERALLY THICKEN
                    ASA WHOLE, BUT THE CONTINUOUS VEIL EXTENDS MORE THAN 45 DEGR
                    REES ABOVE THE HORIZON, WITHOUT THE SKY BEING TOTALLY COVERE
                    D
            0017 01 CIRROSTRATUS COVERING THE WHOLE SKY
            0018 02 CIRROSTRATUS NOT PROGRESSIVELY INVADING THE SKY AND NOT ENTI
                    RELY COVERING IT
            0019 02 CIRROCUMULUS ALONE, OR CIRROCUMULUS PREDOMINANT AMONG THE CH
                     CLOUDS
            0020 01 NO CM CLOUDS
            0021 01 ALTOSTRATUS TRANSLUCIDUS
            0022 01 ALTOSTRATUS OPACUS OR NIMBOSTRATUS
            0023 01 ALTOCUMULUS TRANSLUCIDUS AT A SINGLE LEVEL
            0024 02 PATCHES (OFTEN LENTICULARIS) OF ALTOCUMULUS TRANSLUCIDUS, CO
                    NTINUALLY CHANGING AND OCCURING AT ONE OR MORE LEVELS
            0025 04 ALTOCUMULUS TRANSLUCIDUS IN BANDS, OR ONE OR MORE LAYERS OF
                    ALTOCUMULUS TRANSLUCIDUS OR OPACUS, PROGRESSIVELY INVADING T
                    HE SKY; THESE ALTOCUMULUS CLOUDS GENERALLY THICKEN AS A WHOL
                    E
            0026 01 ALTOCUMULUS CUMULOGENITUS (OR CUMULONIMBOGENITUS)
            0027 04 ALTOCUMULUS TRANSLUCIDUS OR OPACUS IN TWO OR MORE LAYERS, OR
                     ALTOCUMULUS OPACUS IN A SINGLE LAYER, NOT PROGRESSIVELY INV
                    ADING THE SKY, OR ALTOCUMULUS WITH ALTOSTRATUS OR NIMBOSTRAT
                    US
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            0028 01 ALTOCUMULUS CASTELLANUS OR FLOCUS
            0029 01 ALTOCUMULUS OF CHAOTIC SKY, GENERALLY AT SEVERAL LEVELS
            0030 01 NO CL CLOUDS
            0031 02 CUMULUS HUMILIS OR CUMULUS FRACTUS OTHER THAN OF BAD WEATHER
                    , OR BOTH
            0032 03 CUMULUS MEDIOCRIS OR CONGESTUS, WITH OR WITHOUT CUMULUS OF S
                    PECIES FRACTUS OR HUMULIS OR STRATOCUMULUS, ALL HAVING THEIR
                     BASES AT THE SAME LEVEL
            0033 02 CUMULONIMBUS CALVUS, WITH OR WITHOUT CUMULUS, STRATOCUMULUS
                    OR STRATUS
            0034 01 STRATOCUMULUS CUMULOGENITUS
            0035 01 STRATOCUMULUS OTHER THAN STRATOCUMULUS CUMULOGENITUS
            0036 02 STRATUS NEBULOSUS OR STRATUS FRACTUS OTHER THAN OF BAD WEATH
                    ER, OR BOTH
            0037 02 STRATUS FRACTUS OR CUMULUS FRACTUS OF BAD WEATHER, OR BOTH
                    (PANNUS), USUALLY BELOW ALTOSTRATUS OR NIMBOSTRATUS
            0038 02 CUMULUS AND STRATOCUMULUS OTHER THAN STRATOCUMULUS CUMULOGEN
                    ITUS, WITH BASES AT DIFFERENT LEVELS
            0039 03 CUMULONIMBUS CAPILLATUS (OFTEN WITH AN ANVIL), WITH OR WITHO
                    UT CUMULONIMBUS CALVUS, CUMULUS, STRATOCUMULUS, STRATUS OR P
                    ANNUS
            0059 02 CLOUD NOT VISIBLE OWING TO DARKNESS, FOG, DUSTSTORM, SANDSTO
                    RM, OR OTHER ANALOGOUS PHENOMENA
            0060 03 CH CLOUDS INVISIBLE OWING TO DARKNESS, FOG, DUSTSTORM, SANDS
                    TORM, OR OTHER SIMILAR PHENOMENA, OR BECAUSE OF A CONTINUOUS
                    LAYER OF LOWER CLOUDS
            0061 03 CM CLOUDS INVISIBLE OWING TO DARKNESS, FOG, DUSTSTORM, SANDS
                    TORM, OR OTHER SIMILAR PHENOMENA, OR BECAUSE OF A CONTINUOUS
                    LAYER OF LOWER CLOUDS
            0062 02 CL CLOUDS INVISIBLE OWING TO DARKNESS, FOG, DUSTSTORM, SANDS
                    TORM, OR OTHER SIMILAR PHENOMENA
            0063 01 MISSING VALUE
B20017 0011 0000 01 ISOLATED CLOUD OR FRAGMENTS OF CLOUD
            0001 01 CONTINUOUS CLOUD
            0002 01 BROKEN CLOUD - SMALL BREAKS, FLAT TOPS
            0003 01 BROKEN CLOUD - LARGE BREAKS, FLAT TOPS
            0004 01 CONTINUOUS CLOUD
            0005 01 BROKEN CLOUD - SMALL BREAKS, UNDULATED TOPS
            0006 01 BROKEN CLOUD - LARGE BREAKS, UNDULATED TOPS
            0007 02 CONTINUOUS OR ALMOST CONTINUOUS WAVES WITH TOWERING CLOUDS A
                    BOVE THE TOP OF THE LAYER
            0008 02 GROUPS OF WAVES WITH TOWERING CLOUDS ABOVE THE TOP OF THE LA
                    YER
            0009 01 TWO OR MORE LAYERS AT DIFFERENT LEVELS
            0015 01 MISSING VALUE
B20018 0004 0000 01 INCREASING (U)
            0001 01 DECREASING (D)
            0002 01 NO DISTINCT CHANGE (N)
            0003 01 MISSING VALUE
B20032 0006 0000 01 ICE NOT BUILDING UP
            0001 01 ICE BUILDING UP SLOWLY
            0002 01 ICE BUILDING UP QUICKLY
            0003 01 ICE MELTING OR BREAKING UP SLOWLY
            0004 01 ICE MELTING OR BREAKING UP RAPIDLY
            0007 01 MISSING VALUE
B20033 0004 0001 01 ICING FROM OCEAN SPRAY
            0002 01 ICING FROM FOG
            0003 01 ICING FROM RAIN
            0004 01 MISSING VALUE
B20034 0012 0000 01 NO SEA ICE IN SIGHT
            0001 02 SHIP IN OPEN LEAD MORE THAN 1.0 NAUTICAL MILE WIDE, OR SHIP
                    IN FAST ICE WITH BOUNDARY BEYOND LIMIT OF VISIBILITY
            0002 04 SEA ICE PRESENT IN CONCETRATION LESS THAN 3/10 (3/8), OPEN W
                    ATER OR VERY OPEN PACK ICE, SEA ICE CONCETRATION IS UNIFORM
                    IN THE OBSERVATION AREA, SHIP IN ICE OR WITHIN 0.5 NAUTICAL
                    MILE OF ICE EDGE
            0003 03 4/10 TO 6/10 (3/8 TO LESS THAN 6/8) ,OPEN PACK ICE, SEA ICE
                    CONCETRATION IS UNIFORM IN THE OBSERVATION AREA, SHIP IN ICE
                     OR WITHIN 0.5 NAUTICAL MILE OF ICE EDGE
            0004 03 7/10 TO 8/10 (6/8 TO LESS THAN 7/8), CLOSE PACK ICE, SEA ICE
                     CONCETRATION IS UNIFORM IN THE OBSERVATION AREA, SHIP IN IC
                     E OR WITHIN 0.5 NAUTICAL MILE OF ICE EDGE
            0005 04 9/10 OR MORE, BUT NOT 10/10 (7/8 TO LESS THAN 8/8), VERY CLO
                    SE PACK ICE, SEA ICE CONCETRATION IS UNIFORM IN THE OBSERVAT
                    ION AREA, SHIP IN ICE OR WITHIN 0.5 NAUTICAL MILE OF ICE EDG
                    E
            0006 03 STRIPS AND PATCHES OF PACK ICE WITH OPEN WATER BETWEEN, SEA
                    ICE CONCENTRATION IS NOT UNIFORM IN THE OBSERVATION AREA, SH
                    IP IN ICE OR WITHIN 0.5 NAUTICAL MILE OF ICE EDGE
            0007 04 STRIPS AND PATCHES OF CLOSE OR VERY CLOSE PACK ICE WITH AREA
                    S OF LESSER CONCENTRATION BETWEEN, SEA ICE CONCETRATION IS N
                    OT UNIFORM IN THE OBSERVATION AREA, SHIP IN ICE OR WITHIN 0.
                    5 NAUTICAL MILE OF ICE EDGE
            0008 04 FAST ICE WITH OPEN WATER,VERY OPEN OR OPEN PACK ICE TO SEAWA
                    RD OF THE ICE BOUNDARY, SEA ICE CONCENTRATION IS NOT UNIFORM
                     IN THE OBSERVATION AREA, SHIP IN ICE OR WITHIN 0.5 NAUTICAL
                     MILE OF ICE EDGE
            0009 04 FAST ICE CLOSE OR VERY CLOSE PACK ICE TO SEAWARD OF THE ICE
                    BOUNDARY, SEA ICE CONCETRATION IS NOT UNIFORM IN THE OBSERVA
                    TION AREA, SHIP IN ICE OR WITHIN 0.5 NAUTICAL MILE OF ICE ED
                    GE
            0014 03 UNABLE TO REPORT, BECAUSE OF DARKNESS, LACK OF VISIBILITY, O
                    R BECAUSE SHIP IS MORE THAN 0.5 NAUTICAL MILE AWAY FROM ICE
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                EDGE
        0015 01 MISSING VALUE
B20035 0012 0000 01 NO ICE OF LAND ORIGIN
        0001 01 1-5 ICEBERGS, NO GROWLERS OR BERGY BITS
        0002 01 6-10 ICEBERGS, NO GROWLERS OR BERGY BITS
        0003 01 11-20 ICEBERGS, NO GROWLERS OR BERGY BITS
        0004 01 UP TO AND INCLUDING 10 GROWLERS AND BERGY BITS - NO ICEBERGS
        0005 01 MORE THAN 10 GROWLERS AND BERGY BITS - NO ICEBERGS
        0006 01 1-5 ICEBERGS, WITH GROWLERS AND BERGY BITS
        0007 01 6-10 ICEBERGS, WITH GROWLERS AND BERGY BITS
        0008 01 11-20 ICEBERGS, WITH GROWLERS AND BERGY BITS
        0009 02 MORE THAN 20 ICEBERGS,WITH GROWLERS AND BERGY BITS - A MAJOR
                HAZARD TO NAVIGATION
        0014 02 UNABLE TO REPORT, BECAUSE OF DARKNESS, LACK OF VISIBILITY OR
                BECAUSE ONLY SEA ICE IS VISIBLE
        0015 01 MISSING VALUE
B20036 0012 0000 01 SHIP IN OPEN WATER WITH FLOATING ICE IN SIGHT
        0001 01 SHIP IN EASILY PENETRABLE ICE; CONDITIONS IMPROVING
        0002 01 SHIP IN EASILY PENETRABLE ICE; CONDITIONS NOT CHANGING
        0003 01 SHIP IN EASILY PENETRABLE ICE; CONDITIONS WORSENING
        0004 01 SHIP IN ICE DIFFICULT TO PENETRATE; CONDITIONS IMPROVING
        0005 01 SHIP IN ICE DIFFICULT TO PENETRATE; CONDITIONS NOT CHANGING
        0006 02 SHIP IN ICE DIFFICULT TO PENETRATE AND CONDITIONS WORSENING.
                ICE FORMING AND FLOES FREEZING TOGETHAR
        0007 02 SHIP IN ICE DIFFICULT TO PENETRATE AND CONDITIONS WORSENING.
                ICE UNDER SLIGHT PRESSURE
        0008 02 SHIP IN ICE DIFFICULT TO PENETRATE AND CONDITIONS WORSENING.
                ICE UNDER MODERATE OR SEVERE PRESSURE
        0009 01 SHIP IN ICE DIFFICULT TO PENETRATE AND CONDITIONS WORSENING. SHIP BESET.
        0030 01 UNABLE TO REPORT, BECAUSE OF DARKNESS OR LACK OF VISIBILITY
        0031 01 MISSING VALUE
B20037 0012 0000 01 NEW ICE ONLY (FRAZIL ICE, GREASE ICE, SLUSH, SHUGA)
        0001 01 NILAS OR ICE RIND, LESS THAN 10 CM THICK
        0002 01 YOUNG ICE(GREY ICE, GREY-WHITE ICE

B20041 0011 0000 01 NO ICING
        0001 01 LIGHT ICING
        0002 01 LIGHT ICING IN CLOUD
        0003 01 LIGHT ICING IN PRECIPITATION
        0004 01 MODERATE ICING
        0005 01 MODERATE ICING IN CLOUD
        0006 01 MODERATE ICING IN PRECIPITATION
        0007 01 SEVERE ICING
        0008 01 SEVERE ICING IN CLOUD
        0009 01 SEVERE ICING IN PRECIPITATION
        0015 01 MISSING VALUE
B20062 0021 0000 03 SURFACE OR GROUND DRY (WITHOUT CRACKS AND NO APPRECIABLE AMO
                UNT OF DUST OR LOOSE SAND), WITHOUT SNOW OR MEASURABLE ICE C
                OVER
        0001 02 SURFACE OF GROUND MOIST, WITHOUT SNOW OR MEASURABLE ICE COVE
                ER
        0002 02 SURFACE OF GROUND WET (STANDING WATER IN SMALL OR LARGE POOL
                S ON SURFACE, WITHOUT SNOW OR MEASURABLE ICE COVER
        0003 01 FLOODED, WITHOUT SNOW OR MEASURABLE ICE COVER
        0004 02 SURFACE OF GROUND FROZEN,WITHOUT SNOW OR MEASURABLE ICE COVE
                R
        0005 01 GLAZE ON GROUND, WITHOUT SNOW OR MEASURABLE ICE COVER
        0006 02 LOOSE DRY DUST OR SAND NOT COVERING GROUND COMPLITELY, WITHO
                UT SNOW OR MEASURABLE ICE COVER
        0007 02 THIN COVER OF LOOSE DRY DUST OR SAND COVERING GROUND COMPLIT
                ELY, WITHOUT SNOW OR MEASURABLE ICE COVER
        0008 02 MODERATE OR THICK COVER OF LOOSE DRY DUST OR SAND COVERING G
                ROUND COMPLITELY, WITHOUT SNOW OR MEASURABLE ICE COVER
        0009 02 EXTREMLY DRY WITH CRACKS, WITHOUT SNOW OR MEASURABLE ICE COV
                ER
        0010 02 GROUND PREDOMINANTLY COVERED BY ICE, WITH SNOW OR MEASURABLE
                 ICE COVER
        0011 02 COMPACT OR WET SNOW (WITH OR WITHOUT ICE) COVERING LESS THAN
                 ONE-HALF OF  THE GROUND, WITH SNOW OR MEASURABLE ICE COVER
        0012 03 COMPACT OR WET SNOW (WITH OR WITHOUT ICE) COVERING AT LEAST
                ONE-HALF OF THE GROUND BUT GROUND NOT COMPLITELY COVERED, WI
                TH SNOW OR MEASURABLE ICE COVER
        0013 02 EVEN LAYER OF COMPACT OR WET SNOW COVERING GROUND COMPLITELY
                , WITH SNOW OR MEASURABLE ICE COVER
        0014 02 UNEVEN LAYER OF COMPACT OR WET SNOW COVERING GROUND COMPLITE
                LY, WITH SNOW OR MEASURABLE ICE COVER
        0015 02 LOOSE DRY SNOW COVERING LESS THAN ONE HALF OF THE GROUND, WI
                TH SNOW OR MEASURABLE ICE COVER
        0016 02 LOOSE DRY SNOW COVERING LESS THAN ONE-HALF OF THE GROUND (BU
                T NOT COMPLITELY), WITH SNOW OR MEASURABLE ICE COVER
        0017 02 EVEN LAYER OF LOOSE DRY SNOW COVERING GROUND COMPLITELY, WIT
                H SNOW OR MEASURABLE ICE COVER
        0018 02 UNEVEN LAYER OF LOOSE DRY SNOW COVERING GROUND COMPLITELY, W
                ITH SNOW OR MEASURABLE ICE COVER
        0019 02 SNOQ COVERING GROUND COMPLITELY; DEEP DRIFTS, WITH SNOW OR M
                EASURABLE ICE COVER
        0031 01 MISSING VALUE
B20063 0001 0000 01 TO BE DEVELOPED
B20090 0007 0000 01 RESERVED
        0001 01 NACREOUS CLOUDS
        0002 01 NOCTILUCENT CLOUDS
        0003 01 CLOUDS FROM WATERFALLS
        0004 01 CLOUDS FROM FIRES
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            0005 01 CLOUDS FROM VULCANIC ERUPTIONS
            0015 01 MISSING VALUE
B20151 0003 0000 01 FIRST YEAR ICE
            0001 01 MULTI YEAR ICE
            0007 01 MISSING
B21066 0011 0001 01 PROCESSING EQUIPMENT NOT WORKING
            0002 01 EQUIPMENT FAILED
            0003 01 PRF CODE CHANGED DURING IMAGE GENERATION
            0004 01 SAMPLINH WINDOW CHANGED DURING IMAGE GENERATION
            0005 01 GAIN CHANGED DURING IMAGE GENERATION
            0006 01 CHIRP REPLICA EXCEEDS SPECIFIC VALUE
            0007 02 INPUT DATA MEAN AND STANDARD DEVIATION OF IN-PHASE AND
                    QUADRATURE OUT OF RANGE
            0008 01 DOPPLER CENTROID CONFIDENCE > MMCC VALUE
            0009 01 DOPPLER CENTROID ABSOLUTE VALUE > PRF/2
            0010 01 DOPPLER AMBIGUITY CONFIDENCE < MMCC VALUE
            0011 01 OUTPUT DATA MEAN AND STANDARD DEVIATION =< MMCC VALUE
B21067 0012 0001 01 NO FOREBEAM CALCULATION
            0002 01 NO MIDBEAM CALCULATION
            0003 01 NO AFTBEAM CALCULATION
            0004 01 FOREBEAM ARCING DETECTED
            0005 01 MID ARCING DETECTED
            0006 01 AFTBEAM ARCING DETECTED
            0007 01 ANY BEAM NOISE CONTENT ABOVE OR EQUAL TO TRESHOLD
            0008 01 LAND (ANY LAND IN CELL FOOTPRINT)
            0009 01 AUTONOMOUS AMBIGUITY REMOVAL NOT USED
            0010 01 METEOROLOGICAL BACKGROUND NOT USED
            0011 01 MINIMUM RESIDUAL EXCEEDED TRESHOLD
            0012 01 FRAME CHECKSUM ERROR DETECTED
B21068 0007 0001 01 STANDARD DEVIATION OF WIND SPEED OUTSIDE MMCC LIMIT
            0002 01 STANDARD DEVIATION OF SIGNIFICANT WAVE HEIGHT OUTSIDE MMCC LIMIT
            0003 01 STANDARD DEVIATION OF ALTITUDE OUTSIDE MMCC LIMIT
            0004 01 MEAN PEAKINESS OUTSIDE MMCC LIMIT
            0005 01 FRAME CHECKSUM ERROR DETECTED
            0006 01 HEIGHT-TIME LOOP TIME CONSTANT CORRECTION NOT PERFORMED
            0007 01 NOT ENOUGH MEASUREMENTS ( N< 10)
B21069 0009 0001 01 12.0 MICROMETERS CHANNEL PRESENT IN SOURCE DATA
            0002 01 11.0 MICROMETERS CHANNEL PRESENT IN SOURCE DATA
            0003 01  3.7 MICROMETERS CHANNEL PRESENT IN SOURCE DATA
            0004 01  1.6 MICROMETERS CHANNEL PRESENT IN SOURCE DATA
            0005 02 CLOUD IDENTIFICATION USED 1.6 MICROMETERS
                    HISTOGRAM REFLECTANCE CLOUD TEST
            0006 02 1.6 MICROMETERS HISTOGRAM REFLECTANCE CLOUD
                    TEST USED DYNAMIC TRESHOLD
            0007 01 SUN GLINT DETECTED BY 1.6 MICROMETERS REFLECTANCE CLOUD TEST
            0008 01 3.7 MICROMETERS USED IN SEA-SURFACE TEMPERATURE RETRIEVAL
            0009 02 SEA-SURFACE TEMPERATURE DERIVATION USED DAYTIME DATA
                    (NIGHT-TIME IF ZERO)
B21072 0003 0001 01 HEIGHT ERROR CORRECTION APPLIED INSTEAD OF OPEN LOOP CALIBRATION
            0002 01 MICROWAVE SOUNDER USED FOR TROPOSPHERE CORRECTION
            0003 01 AGC OUTPUT CORRECTION APPLIED INSTED OF OPEN LOOP CALIBRATION
B21073 0008 0001 01 BLANK DATA RECORD
            0002 01 TEST
            0003 01 CALIBRATION (CLOSED LOOP)
            0004 01 BITE
            0005 01 ACQUISITION ON ICE
            0006 01 ACQUISITION ON OCEAN
            0007 01 TRACKING ON ICE
            0008 01 TRACKING ON OCEAN
B21076 0004 0000 01 LINEAR
            0001 01 LOGARITHMIC (BASE E)
            0002 01 LOGARITHMIC (BASE 10)
            0007 01 MISSING VALUE
B21109 0008 0001 01 NOT ENOUGH GOOD SIGMA-0 AVAILABLE FOR WIND RETRIEVAL
            0002 01 POOR AZIMUTH DIVERSITY AMONG SIGMA0- FOR  WIND RETRIEVAL
            0008 01 SOME PORTION OF WIND VECTOR CELL IS OVER LAND
            0009 01 SOME PORTION OF WIND VECTOR CELL IS OVER ICE
            0010 01 WIND RETRIEVAL NOT PERFORMED FOR WIND  VECTOR CELL
            0011 01 REPORTED WIND SPEED IS GREATER THAN 30 M/S
            0012 01 REPORTED WIND SPEED IS LESS THAN OR EQUAL TO 3 M/S
            0017 01 MISSING VALUE
B21119 0014 0000 01 RESERVED
            0001 01 SASS
            0002 01 SASS2
            0003 01 NSCAT0
            0004 01 NSCAT1
            0005 01 NSCAT2
            0006 01 QSCAT0
            0007 01 QSCAT1
            0031 01 CMOD1
            0032 01 CMOD2
            0033 01 CMOD3
            0034 01 CMOD4
            0035 01 CMOD5
            0064 01 MISSING VALUE
B22061 0011 0000 01 CALM (GLASSY)           HEIGHT     0           M
            0001 01 CALM (RIPPLED)          HEIGHT     0     - 0.1  M
            0002 01 SMOOTH (WAVELETS)       HEIGHT     0.1   - 0.5  M
            0003 01 SLIGHT                  HEIGHT     0.5   - 1.5  M
            0004 01 MODERATE                HEIGHT     1.25  - 2.5  M
            0005 01 ROUGH                   HEIGHT     2.5   - 4    M
            0006 01 VERY ROUGH              HEIGHT     4     - 6    M
            0007 01 HIGH                    HEIGHT     6     - 9    M
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            0008 01 VERY HIGH                HEIGHT     9     -14    M
            0009 01 PHENOMANAL               HEIGHT     OVER   14    M
            0015 01 MISSING VALUE
B22120 0013 0000 01 GOOD DATA
            0001 01 MAXIMUM (HIGH) WATER LEVEL LIMIT EXCEEDED
            0002 01 MINIMUM (LOW) WATER LEVEL LIMIT EXCEEDED
            0003 01 RATE OF CHANGE LIMIT FOR WATER LEVEL EXCEEDED
            0004 01 FLAT LIMIT FOR WATER LEVEL EXCEEDED
            0005 01 OBSERVED MINUS PREDICTED WATER LEVEL VALUE LIMIT EXCEEDED
            0006 02 OBSERVED VALUE FROM PRIMARY WATER LEVEL SENSOR MINUS
                    BACKUP WATER LEVEL SENSOR
            0007 01 VALUE EXCEEDED SPECIFIED TOLERANCE FROM EXPECTED VALUE
            0008 01 WATER LEVEL QA PARAMETER (SIGMAS AND/OR OUTLIERS) LIMITS EXCEEDED
            0009 01 SEA TEMPERATURE OUTSIDE OF EXPECTED RANGE
            0010 01 MULTIPLE QC CHECKS (ABOVE) FAILED
            0011 01 NO AUTOMATED WATER LEVEL CHECKS PERFORMED
            0031 01 MISSING VALUE
B22121 0009 0000 01 OPERATIONAL
            0001 01 POSSIBLE CLOGGING PROBLEM OR OTHERWISE DEGRADED WATE LEVEL DATA
            0002 01 POSSIBLE DATUM SHIFT
            0003 01 UNKNOWN STATUS OF WATER LEVEL SENSOR
            0004 01 SUSPECTED OR KNOWN SEA TEMPERATURE SENSOR PROBLEM
            0005 01 MULTIPLE POSSIBLE PROBLEMS (ABOVE)
            0006 01 BAD DATA- DO NOT DISSEMINATE
            0007 01 NO MANUAL WATER LEVEL CHECKS PERFORMED
            0031 01 MISSING VALUE
B22122 0008 0000 01 GOOD DATA FROM ALL SENSORS
            0001 01 WIND DIRECTION OUTSIDE OF ALLOWABLE RANGE
            0002 01 WIND SPEED OUTSIDE OF EXPECTED RANGE
            0003 01 BAROMETRIC PRESSURE OUTSIDE OF EXPECTED RANGE
            0004 01 AIR TEMPERATURE OUTSIDE OF EXPECTED RANGE
            0005 01 MULTIPLE SENSOR FAILED QC CHECKS
            0006 01 NO AUTOMATED METEOROLOGICAL DATA CHECKS PERFORMED
            0031 01 MISSING VALUE
B22123 0009 0000 01 OPERATIONAL
            0001 01 SUSPECTED OR KNOWN PROBLEM WITH WIND SENSOR
            0002 01 SUSPECTED OR KNOWN PROBLEM WITH BAROMETRIC PRESSURE SENSOR
            0003 01 SUSPECTED OR KNOWN PROBLEM WITH AIR TEMPERATURE SENSOR
            0004 01 UNKNOWN STATUS OF ALL SENSORS
            0005 01 SUSPECTED OR KNOWN PROBLEMS WITH MULTIPLE SENSORS
            0006 01 BAD DATA - DO NOT DISSEMINATE
            0007 01 NO MANUAL METEOROLOGICAL DATA CHECKS PERFORMED
            0031 01 MISSING VALUE
B23001 0005 0000 01 RESERVED
            0001 01 ARTICLES 1 AND 2
            0002 01 ARTICLE 3
            0003 01 ARTICLE 5.2
            0007 01 MISSING VALUE
B23002 0016 0000 01 reserved
            0001 01 NUCLEAR REACTOR ON GROUND
            0002 01 NUCLEAR REACTOR ON SEA
            0003 01 NUCLEAR REACTOR IN SPACE
            0004 01 NUCLEAR FULE FACILITY
            0005 01 RADIOACTIVE WASTE MANAGMENT FACITILY
            0006 01 TRANSPORT OF NUCLEAR FUEL OR RADIOACTIVE WASTE
            0007 01 STORAGE OF NUCLEAR FUEL OR RADIOACTIVE WASTE
            0008 01 MANUFACTURE OF RADIO-ISOTOPES
            0009 01 USE OF RADIO-ISOTOPES
            0010 01 STORAGE OF RADIO-ISOTOPES
            0011 01 DISPOSAL OF RADIO-ISOTOPS
            0012 01 TRANSPORT OF RADIO-ISOTOPES
            0013 01 USE OF RADIO-ISOTOPES FOR POWER GENERATION
            0030 01 OTHER
            0031 01 MISSING VALUE
B23003 0008 0000 01 NO RELEASE
            0001 01 RELEASE TO ATMOSPHERE
            0002 01 RELEASE TO WATER
            0003 01 RELEASE TO BOTH ATMOSPHERE AND WATER
            0004 01 EXPECTED RELEASE TO ATMOSPHERE
            0005 01 EXPECTED RELEASE TO WATER
            0006 01 EXPECTED RELEASE TO BOTH ATMOSPHERE AND WATER
            0007 01 MISSING VALUE
B23004 0006 0000 01 NO COUNTERMEASURE
            0001 01 EVACUATION
            0002 01 SHELTERING
            0003 01 PROPHILAXIS
            0004 01 WATER
            0007 01 MISSING VALUE
B23005 0004 0000 01 INCIDENT STAT DOES NOT UNDERSTAND WHAT HAPPENED
            0001 01 INCIDENT STATE KNOWS THE CAUSE OF THE INCIDENT
            0002 01 RESERVED
            0003 01 MISSING VALUE
B23006 0008 0000 01 NO IMPROVEMENT
            0001 01 UNSTABLE
            0002 01 NO DETERIORATION
            0003 01 IMPROVING
            0004 01 STABLE
            0005 01 DETERIORATING
            0006 01 RESERVED
            0007 01 MISSING VALUE
B23007 0005 0000 01 NO RELEASE
            0001 01 RELEASE HAS STOPPED
            0002 01 RELEASE
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            0003 01 RELEASE IS CONTINUING
            0007 01 MISSING VALUE
B23008 0004 0000 01 GASEUS
            0001 01 PARTICULATE
            0002 01 MIXTURE OF GASEUS AND PARTICULATE
            0003 01 MISSING VALUE
B23009 0004 0000 01 GASEUS
            0001 01 PARTICULATE
            0002 01 MIXTURE OF GASEUS AND PARTICULATE
            0003 01 MISSING VALUE
B23016 0004 0000 01 NO SIGNIFICANT TOXIC HEALTH EFFECT
            0001 01 SIGNIFICANT CHEMICAL TOXIC HEALTH EFFECT POSSIBLE
            0002 01 RESERVED
            0003 01 MISSING VALUE
B23018 0006 0000 01 RELEASE NO LONGER OCCURRING
            0001 01 RELEASE STILL OCCURRING
            0002 01 RELEASE EXPECTED TO INCREASE IN NEXT SIX HOURS
            0003 01 RELEASE EXPECTED TO REMAIN CONSTANT IN NEXT SIX HOURS
            0004 01 RELEASE EXPECTED TO DECREASE IN NEXT SIX HOURS
            0007 01 MISSING VALUE
B23031 0004 0000 01 PLUME WILL NOT ENCOUNTER RAIN IN INCIDENT STATE
            0001 01 PLUME WILL ENCOUNTER RAIN IN INCIDENT STATE
            0002 01 RESERVED
            0003 01 MISSING VALUE
B23032 0004 0000 01 NO SIGNIFICANT CHANGE EXPECTED WITHIN NEXT SIX HOURS
            0001 01 ANTICIPATED SIGNIFICANT CHANGE EXPECTED WITHIN NEXT SIX HOURS
            0002 01 RESERVED
            0003 01 MISSING VALUE
B24003 0005 0000 01 NOBLE GASES
            0001 01 IODINES
            0002 01 CAESIUM
            0003 01 TRANSURANICS
            0031 01 MISSING VALUE
B25004 0004 0000 01 INCOHERENT
            0001 01 COHERENT (DOPPLER)
            0002 01 RESERVED
            0003 01 MISSING VALUE
B25005 0004 0000 01 LOGATITHM - 2.5 DB
            0001 01 LINEAR
            0002 01 SPECIAL
            0003 01 MISSING VALUE
B25006 0005 0000 01 ZH TO R CONVERSION
            0001 01 (ZH, ZDR) TO (NO.DO) TO R
            0002 01 (Z(F1),Z(F2)) TO ATTENUATION TO R
            0006 01 OTHER
            0007 01 MISSING VALUE
B25009 0004 0001 01 NONE
            0002 01 CALIBRATION TARGET OR SIGNAL
            0003 01 AGAINST RAINGAGES
            0004 01 AGAINST OTHER INSTRUMENTS (DISTROMETER-ATTENUATION)
B25010 0008 0000 01 NONE
            0001 01 MAP
            0002 01 INSERTION OF HIGHER ELEVATION DATA AND MAP
            0003 01 ANALYSIS OF FLUCTUATING LOGARITHM SIGNAL (CLUTTER DETECTION)
            0004 01 EXTRACTION OF FLUCTUATING PART OF LINEAR SIGNAL (CLUTTER SUPPRESSION)
            0005 01 CLUTTER SUPPRESSION DOPPLER
            0006 01 MULTIPARAMETER ANALYSIS
            0015 01 MISSING VALUE
B25011 0004 0000 01 NONE
            0001 01 MAP OF CORRECTION FACTORS
            0002 01 INTERPOLATION (AZIMUTH OR ELEVATION)
            0003 01 MISSING VALUE
B25012 0004 0000 01 HARDWARE
            0001 01 SOFTWARE
            0002 01 HARDWARE AND SOFTWARE
            0003 01 MISSING VALUE
B25013 0001 0001 01 BRIGHT BAND CORRECTION
B25015 0001 0001 01 RADOME ATTENUATION CORRECTION
B25017 0001 0001 01 PRECIPITATION ATTENUATION CORRECTION
B25020 0004 0000 01 FTT (FAST FOURIER TRANSFORM
            0001 01 PPP (PULSE PAIR PROCESSING
            0002 01 VPC (VECTOR-PHASE CHANGE)
            0003 01 MISSING VALUE
B25021 0005 0001 01 SIMPLE AVERAGE
            0002 01 CONSENSUS AVERAGE
            0003 01 MEDIAN CHECK
            0004 01 VERTICAL CONSISTENCY CHECK
            0005 01 OTHER
B25030 0004 0000 01 RUNNING MEAN SEA-SURFACE TEMPERATURE NOT USED BECAUSE USAGE CRITERIA NOT MET
            0001 01 RUNNING MEAN SEA-SURFACE TEMPERATURE NOT USED BECAUSE DATA NOT AVAILABLE
            0002 01 RUNNING MEAN SEA-SURFACE TEMPERATURE USED AS PREDICTOR
            0003 01 MISSING VALUE
B25032 0004 0000 01 RESERVED
            0001 01 DATA FROM LOW MODE
            0002 01 DATA FROM HIGH MODE
            0003 01 MISSING VALUE
B25033 0004 0000 01 WIND PROFILER OPERATING IN SUBMODE A
            0001 01 WIND PROFILER OPERATING IN SUBMODE B
            0002 01 RESERVED
            0003 01 MISSING VALUE
B25034 0004 0001 01 TEST A PERFORMED AND FAILED
            0002 01 TEST B PERFORMED AND FAILED
            0003 01 TEST RESULTS INCONCLUSIVE
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B25040 0010 0000 01 NON-SPECIFIC MODE
            0001 01 FIRST GUESS DATA
            0002 01 CLOUD DATA
            0003 01 AVERAGE VECTOR DATA
            0004 01 PRIMARY DATA
            0005 01 GUESS DATA
            0006 01 VECTOR DATA
            0007 01 TRACER DATA; THE IMAGE
            0008 01 TRACER DATA TO NEXT IMAGE
            0015 01 MISSING VALUE
B25041 0004 0000 01 DIRECTION ORIGINALLY REPORTED IN TRUE DEGREES
            0001 01 DIRECTION ORIGINALLY REPORTED USING CODE TABLE 0700, FM 13
            0002 01 RESERVED
            0003 01 MISSING VALUE
B25042 0004 0000 01 SPEED ORIGINALLY REPORTED IN METERS PER SECOND
            0001 01 SPEED ORIGINALLY REPORTED USING CODE TABLE 2251, FM 13
            0002 01 RESERVED
            0003 01 MISSING VALUE
B25045 0020 0001 01 CHANNEL  1 PRESENT - (SET TO 1 PRESENT)
            0002 01 CHANNEL  2 PRESENT - (SET TO 1 PRESENT)
            0003 01 CHANNEL  3 PRESENT - (SET TO 1 PRESENT)
            0004 01 CHANNEL  4 PRESENT - (SET TO 1 PRESENT)
            0005 01 CHANNEL  5 PRESENT - (SET TO 1 PRESENT)
            0006 01 CHANNEL  6 PRESENT - (SET TO 1 PRESENT)
            0007 01 CHANNEL  7 PRESENT - (SET TO 1 PRESENT)
            0008 01 CHANNEL  8 PRESENT - (SET TO 1 PRESENT)
            0009 01 CHANNEL  9 PRESENT - (SET TO 1 PRESENT)
            0010 01 CHANNEL 10 PRESENT - (SET TO 1 PRESENT)
            0011 01 CHANNEL 11 PRESENT - (SET TO 1 PRESENT)
            0012 01 CHANNEL 12 PRESENT - (SET TO 1 PRESENT)
            0013 01 CHANNEL 13 PRESENT - (SET TO 1 PRESENT)
            0014 01 CHANNEL 14 PRESENT - (SET TO 1 PRESENT)
            0015 01 CHANNEL 15 PRESENT - (SET TO 1 PRESENT)
            0016 01 CHANNEL 16 PRESENT - (SET TO 1 PRESENT)
            0017 01 CHANNEL 17 PRESENT - (SET TO 1 PRESENT)
            0018 01 CHANNEL 18 PRESENT - (SET TO 1 PRESENT)
            0019 01 CHANNEL 19 PRESENT - (SET TO 1 PRESENT)
            0020 01 CHANNEL 20 PRESENT - (SET TO 1 PRESENT)
B25046 0004 0001 01 CHANNEL  1 PRESENT - (SET TO 1 PRESENT)
            0002 01 CHANNEL  2 PRESENT - (SET TO 1 PRESENT)
            0003 01 CHANNEL  3 PRESENT - (SET TO 1 PRESENT)
            0004 01 CHANNEL  4 PRESENT - (SET TO 1 PRESENT)
B25047 0003 0001 01 CHANNEL  1 PRESENT - (SET TO 1 PRESENT)
            0002 01 CHANNEL  2 PRESENT - (SET TO 1 PRESENT)
            0003 01 CHANNEL  3 PRESENT - (SET TO 1 PRESENT)
B25048 0015 0001 01 CHANNEL  1 PRESENT - (SET TO 1 PRESENT)
            0002 01 CHANNEL  2 PRESENT - (SET TO 1 PRESENT)
            0003 01 CHANNEL  3 PRESENT - (SET TO 1 PRESENT)
            0004 01 CHANNEL  4 PRESENT - (SET TO 1 PRESENT)
            0005 01 CHANNEL  5 PRESENT - (SET TO 1 PRESENT)
            0006 01 CHANNEL  6 PRESENT - (SET TO 1 PRESENT)
            0007 01 CHANNEL  7 PRESENT - (SET TO 1 PRESENT)
            0008 01 CHANNEL  8 PRESENT - (SET TO 1 PRESENT)
            0009 01 CHANNEL  9 PRESENT - (SET TO 1 PRESENT)
            0010 01 CHANNEL 10 PRESENT - (SET TO 1 PRESENT)
            0011 01 CHANNEL 11 PRESENT - (SET TO 1 PRESENT)
            0012 01 CHANNEL 12 PRESENT - (SET TO 1 PRESENT)
            0013 01 CHANNEL 13 PRESENT - (SET TO 1 PRESENT)
            0014 01 CHANNEL 14 PRESENT - (SET TO 1 PRESENT)
            0015 01 CHANNEL 15 PRESENT - (SET TO 1 PRESENT)
B25049 0005 0001 01 CHANNEL  1 PRESENT - (SET TO 1 PRESENT)
            0002 01 CHANNEL  2 PRESENT - (SET TO 1 PRESENT)
            0003 01 CHANNEL  3 PRESENT - (SET TO 1 PRESENT)
            0004 01 CHANNEL  4 PRESENT - (SET TO 1 PRESENT)
            0005 01 CHANNEL  5 PRESENT - (SET TO 1 PRESENT)
B25051 0006 0001 01 CHANNEL  1 PRESENT - (SET TO 1 PRESENT)
            0002 01 CHANNEL  2 PRESENT - (SET TO 1 PRESENT)
            0003 01 CHANNEL  3 PRESENT - (SET TO 1 PRESENT)
            0004 01 CHANNEL  4 PRESENT - (SET TO 1 PRESENT)
            0005 01 CHANNEL  5 PRESENT - (SET TO 1 PRESENT)
            0006 01 CHANNEL  6 PRESENT - (SET TO 1 PRESENT)
B25053 0006 0001 01 GOOD
            0002 01 REDUNDANT
            0003 01 QUESTIONABLE
            0004 01 BAD
            0005 01 EXPERIMENTAL
            0006 01 PRECIPITATING
B29001 0006 0000 01 GNOMONIC PROJECTION
            0001 01 POLAR STEREOGRAPHIC PROJECTION
            0002 01 LAMBERT’S CONFORMAL CONIC PROJECTION
            0003 01 MERCATOR’S PROJECTION
            0004 01 SCANNING CONE (RADAR)
            0007 01 MISSING VALUE
B29002 0004 0000 01 CARTESIAN
            0001 01 POLAR
            0002 01 OTHER
            0007 01 MISSING VALUE
B30031 0013 0000 01 PPI
            0001 01 COMPOSITE
            0002 01 CAPPI
            0003 01 VERTICAL SECTION
            0004 01 ALPHANUMERIC DATA
            0005 01 MAP OF SUBJECT CLUTTER
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            0006 01 MAP
            0007 01 TEST PICTURE
            0008 01 COMMENTS
            0009 01 MAP OF GROUND OCCULTATION
            0010 01 MAP OF RADAR BEAM HEIGHT
            0014 01 OTHER
            0015 01 MISSING VALUE
B30032 0009 0001 01 MAP
            0002 01 SATELLITE IR
            0003 01 SATELLITE VIS
            0004 01 SATELLITE WV
            0005 01 SATELLITE MULTISPECTRAL
            0006 01 SYNOPTIC OBSERVATIONS
            0007 01 FORECAST PARAMETERS
            0008 01 LIGHTNING DATA
            0015 01 OTHER DATA
B31021 0004 0001 01 1 BIT INDICATOR OF QUALITY, 0= GOOD; 1=SUSPECT OR BAD
            0002 02 2 BIT INDICATOR OF QUALITY, 0= GOOD; 1= SLIGHTLY SUSPECTED;
                    2= HIGHLY SUSPECTED; 3=BAD
            0007 01 PERCENTAGE CONFIDENCE
            0063 01 MISSING VALUE
B33002 0004 0000 01 DATA NOT SUSPECT
            0001 01 DATA SUSPECT
            0002 01 RESERVED
            0003 01 MISSING VALUE
B33003 0005 0000 01 DATA NOT SUSPECT
            0001 01 DATA SLIGHTLY SUSPECT
            0002 01 DATA HIGHTLY SUSPECT
            0003 01 DATA CONSIDERED UNFIT FOR USE
            0007 01 MISSING VALUE
B33020 0008 0000 01 GOOD
            0001 01 INCONSISTENT
            0002 01 DOUBTFUL
            0003 01 WRONG
            0004 01 NOT CHECKED
            0005 01 HAS BEEN CHECKED
            0006 01 RESERVED
            0007 01 MISSING VALUE
B33021 0004 0000 01 WITHIN LIMITS
            0001 01 OUTSIDE LIMITS
            0002 01 RESERVED
            0003 01 MISSING VALUE
B33022 0004 0000 01 GOOD (SEVERAL IDENTICAL REPORTS HAVE BEEN RECEIVED)
            0001 01 DUBIOUS (NO IDENTICAL REPORT HAVE BEEN RECEIVED)
            0002 01 RESERVED
            0003 01 MISSING VALUE
B33023 0004 0000 01 RELIABLE (LOCATION WAS MADE OVER TWO SATELLITE PASSES)
            0001 01 LATEST KNOWN (NO LOCATION OVER CORRESPONDING PASS)
            0002 01 DUBIOUS
            0003 01 MISSING VALUE
B33024 0010 0000 01 RESERVED
            0001 01 EXELLENT - WITHIN 3 METRES
            0002 01 GOOD - WITHIN 10 METRES
            0003 01 FAIR - WITHIN 20 METRES
            0004 01 POOR - MORE THAN 20 METRES
            0005 01 EXELLENT -WITHIN 10 FEET
            0006 01 GOOD WITHIN-30 FEET
            0007 01 FAIR WITHIN 60 FEET
            0008 01 POOR - MORE THAN 60 FEET
            0015 01 MISSING VALUE
B33025 0005 0000 01 TIME INTERPOLATED, LATITUDE AND LONGITUDE REPORTED
            0001 01 TIME REPORTED, LATITUDE AND LONGITUDE INTERPOLATED
            0002 01 TIME, LATITUDE AND LONGITUDE INTERPOLATED
            0003 01 TIME, LATITUDE AND LONGITUDE REPORTED
            0007 01 MISSING VALUE
B33026 0010 0000 01 NORMAL OPERATIONS - MEASUREMENT MODE
            0001 01 NORMAL OPERATIONS - NON-MEASUREMENT MODE
            0002 01 SMALL RH
            0003 01 HUMIDITY ELEMENT IS WET
            0004 01 HUMIDITY ELEMENT IS CONTAMINATED
            0005 01 HEATER FAIL
            0006 01 HEATER FAIL AND WET/CONTAMINATED HUMIDITY ELEMENT
            0007 01 SINGLE VALIDITY BAD
            0008 01 NUMERIC ERROR
            0063 01 MISSING VALUE
B33027 0005 0000 01 RADIUS >= 1500 M
            0001 01 500 M <= RADIUS < 1500 M
            0002 01 250 M <= RADIUS < 500 M
            0003 01 RADIUS < 250 M
            0007 01 MISSING VALUE


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